SERVICE MANUAL

LP200SC / LP200ST



SERVICE MANUAL

LCD PC

LP200SC/LP200ST

NOTICE

Version 1.0

About This Manual

This manual is intended for service personnel who have completed sufficient training to undertake the maintenance and inspection of personal computers.

It is organized to allow you to look up basic information for servicing and/or upgrading components of the LCD PC. The following information is included:

Chapter 1, *Introduction*, provides general information about the location of system elements and their specifications.

Chapter 2, *Disassembly,* provides step-by-step instructions for disassembling parts and subsystems and how to upgrade elements of the system.

Appendix A, *Part Lists*

Appendix B, *Switches and Jumpers*

Appendix C, *Circuit Diagrams*

Related Document

You may also need to consult the following manual for additional information:

User's Manual

This describes the LCD PC's features and the procedures for operating the computer and its ROM-based setup program. It also describes the installation and operation of the utility programs provided with the LCD PC.

Table of Contents

Preface

Chapter 1. Introduction

Chapter 2. Disassembly

1 INTRODUCTION

This manual covers the information you need to service or upgrade the LP200SC/ST LCD PC. Information about operating the computer (e.g. getting started, and the System Configuration Utility) is in the *User's Manual*. Information about drivers (e.g. VGA & audio) is also found in the *User's Manual*. That manual is shipped with the computer.

Operating systems (e.g. *Windows 98 Second Edition, Windows 2000 Professional,* etc.) have their own manuals as do application software (e.g. word processing and database programs). If you have questions about those programs, you should consult those manuals.

The LCD PC comes with a built-in 15" LCD display and is upgradeable in the areas of CPU, system memory and hard disk. See *Chapter 2, "Disassembly*," for a detailed description of the upgrade procedures for each specific component. In addition, the BIOS can be updated using software.

This chapter briefly introduces the computer's technical specifications, external features and system board features.

SYSTEM SPECIFICATIONS

CPU

INTEL CELERON

Socket Type	Socket 370 (FCPGA/FCPGA2)
Speed	533/600/633/667/700/733/766MHz (FSB66) 800/850/900/950MHz (FSB100)
L1 cache (in CPU)	16KB code + 16KB data
L2 cache (on die)	128KB

INTEL PENTIUM III

Socket Type	Socket 370 (FCPGA/FCPGA2)
Speed	600/650/700/750/800/850/1100MHz (FSB100) 600/733/800/866/933/1000MHz (FSB133)
L1 cache (in CPU)	16KB code + 16KB data
L2 cache (on die)	256KB

SYSTEM MEMORY

Type	SDRAM, 3.3V, 100/133MHz (PC100/133)
Base	0MB (onboard)
Expansion	up to 512MB using one or both 168-pin DIMM sockets (DIMM sizes: 64MB, 128MB, 256MB)

CORE LOGIC

SiS630S digital I/F

BIOS

	Insyde 2Mb Flash ROM, APM 1.2, ACPI

Video

Controller	built-in SiS630S
Memory*	SSMA
Interface	digital I/F
Display	built-in 15" LCD color TFT XGA (1024 x 768), 256K colors
Port	analog 15-pin VGA port for CRT

*The system allocates or "shares" a portion of system memory for video use. "Shared" memory size is user-configurable via the SCU.

Storage Devices

HDD	fixed, 3.5", 25.4mm, PCI local bus IDE interface
FDD	3.5", 1.44MB (3-mode)
CD Device	(manufacturer's option)
CD-ROM	24X, full size (5.25") ATAPI interface tray-loading mechanism, access time below 100ms
DVD	8X, full size (5.25") ATAPI interface tray-loading mechanism, access time below 100ms (with software MPEG support)
CD-RW	4X, full size (5.25") ATAPI interface tray-loading mechanism, access time below 100ms

AUDIO

Controller	built-in SiS630S
Compatibility	Sound Blaster, MS Windows Sound System
Compliance	AC'97 specs
Output	2 built-in speakers
Ports	line-in
	phones-out
	microphone-in

PCMCIA

Controller	PCI1420PDV
Socket	(x 2) Type II or (x 1) Type III

I/O

Controller	NSC99A3
Ports	
USB	x 2 (LP200ST)
	x 4 (LP200SC)
Serial	(x 1) 9-pin, 16550A compatible
	(x 1) infrared (modes: IrDA, ASK, FIR)
Parallel	(x 1) 25-pin (modes: Standard AT, Bidirectional, ECP, EPP)
PS/2	(x 2) 6-pin, for mouse and keyboard
IEEE 1394	(x 1) 6-pin (unpowered)

Input

Keyboard	104-key, AT-compatible, with special function keys
Mouse	Genius, scroll type, Microsoft compatible

Communications

Modem (dealer option)

Type	MDC, V.90, 56K (software-based)
Output	RJ-11 jack (on-board)

LAN

Type	built-in SiS630S
Output	RJ-45 jack (on-board)

Security

BIOS Password

Kensington Lock Slot

Power System

Adapter	internal AC, 90W, 90-264V (full range, auto-sensing)
Power Management	ACPI-compliant (S1, S4 & S5)

Physical Specifications

Dimensions	**W:** 369mm (14.5")
	L: 384mm (15.1")
	D: 175mm (6.9")
Weight	7.9Kg
Panel Tilt	0° to 15°
Stand Swivel	270°

1

Environmental Specifications

Temperature

Operating	5°C to 35°C (41°F to 95°F)
Storage	-10°C to 65°C (14°F to 149°F)

Humidity (non-condensing)

Operating	20% to 80%
Storage	10% to 90%

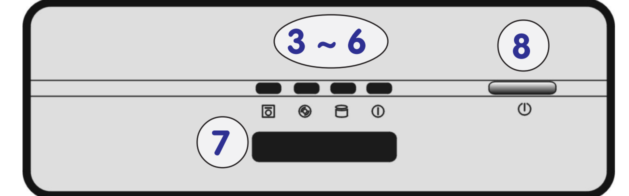
External Locator

The following figures show the external locations of the main features of the LCD PC's system unit.

Front View

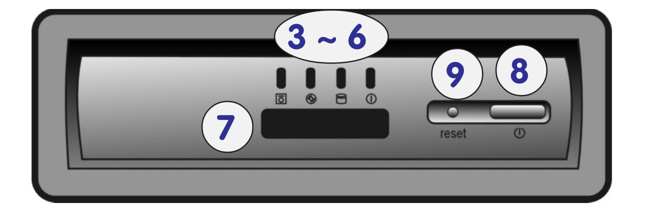
LP200SC





LP200ST





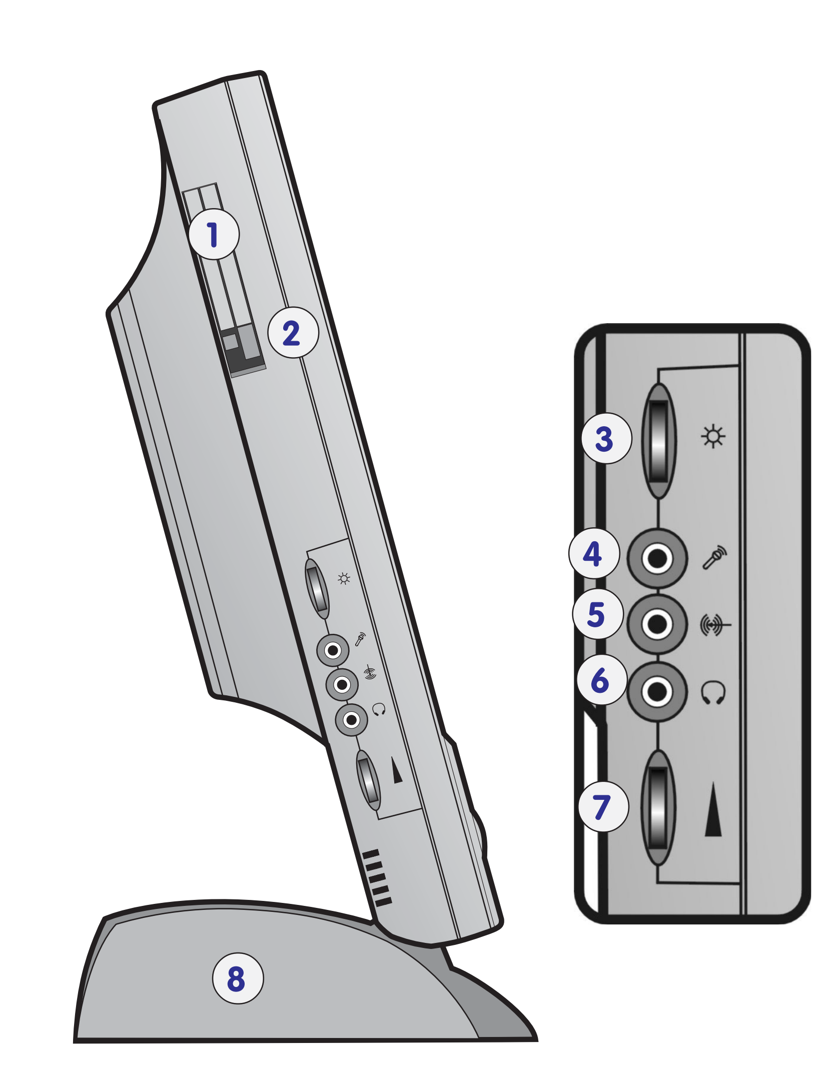
Front View
Fig. 1 – 1

1. 15" LCD
2. Speakers
3. FDD activity LED
4. CD-device activity LED
5. HDD activity LED
6. Power LED
7. Infrared port
8. Power button
9. Reset button* (*LP200ST only)

LEFT VIEW

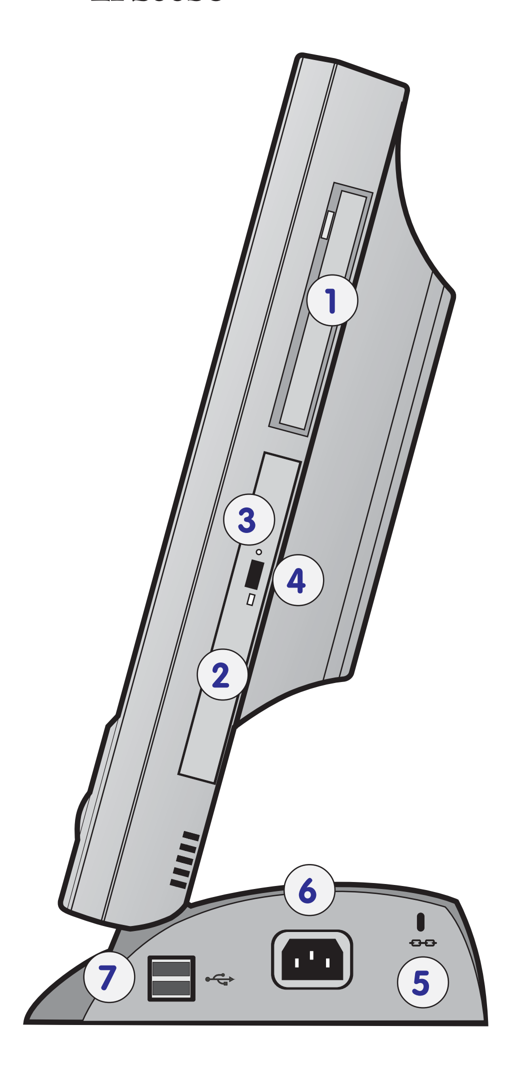
LEFT VIEW
FIG. 1 - 2

1. PC Card (PCMCIA) socket
2. PC Card eject button
3. LCD brightness control
4. Microphone input jack
5. Line-in jack
6. Phones out jack
7. Volume control knob
8. HDD bay

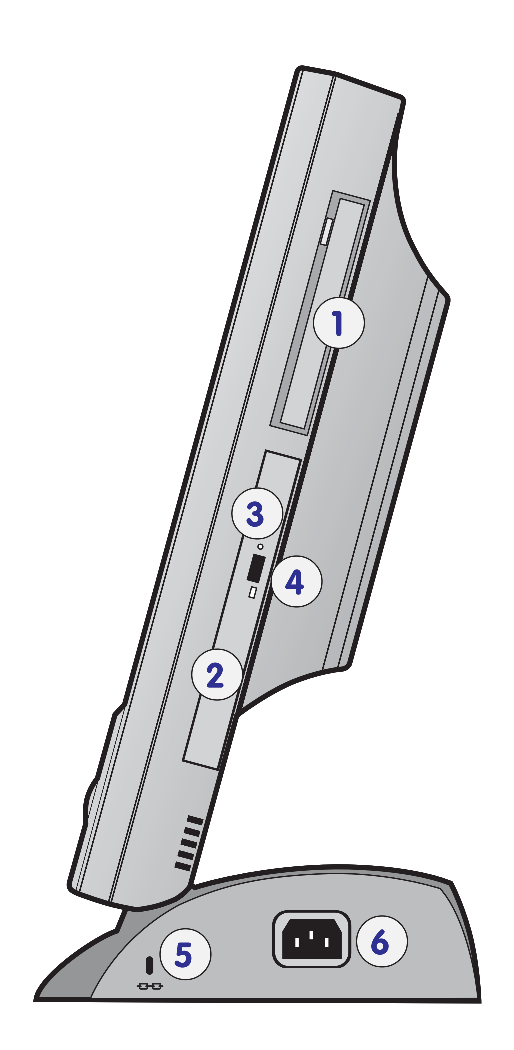


RIGHT VIEW

LP200SC



LP200ST



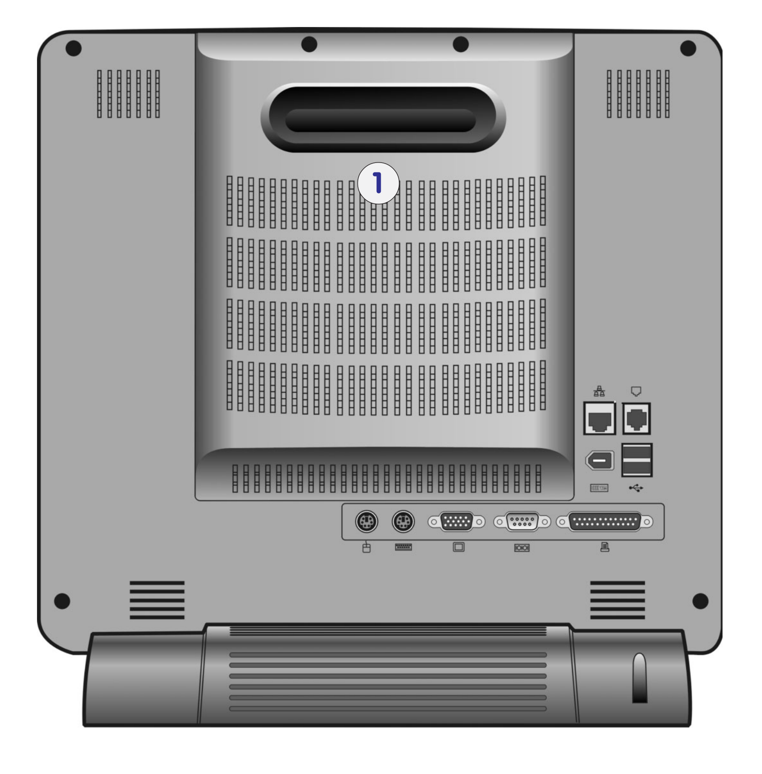
RIGHT VIEW
FIG. 1 - 3

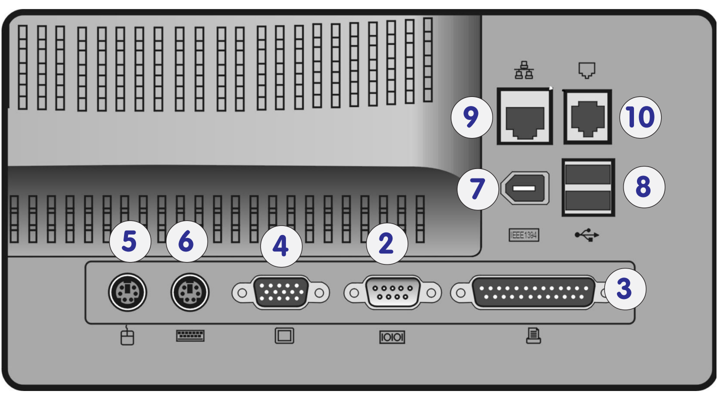
1. FDD bay
2. CD-Device bay
3. Emergency eject button
   - Use a probe (e.g. a straightened paper clip).
4. Eject button
5. Kensington Lock slot
6. AC-in port
7. two USB ports* (*LP200SC only)

REAR VIEW

REAR VIEW
FIG. 1 - 4

1. Carrying handle
2. Serial port (COM A)
3. Printer/Parallel port
4. VGA port
5. PS/2 mouse port
6. PS/2 keyboard port
7. IEEE 1394 port
8. USB ports (x2)
9. RJ-45 LAN port
10. RJ-11 Modem port

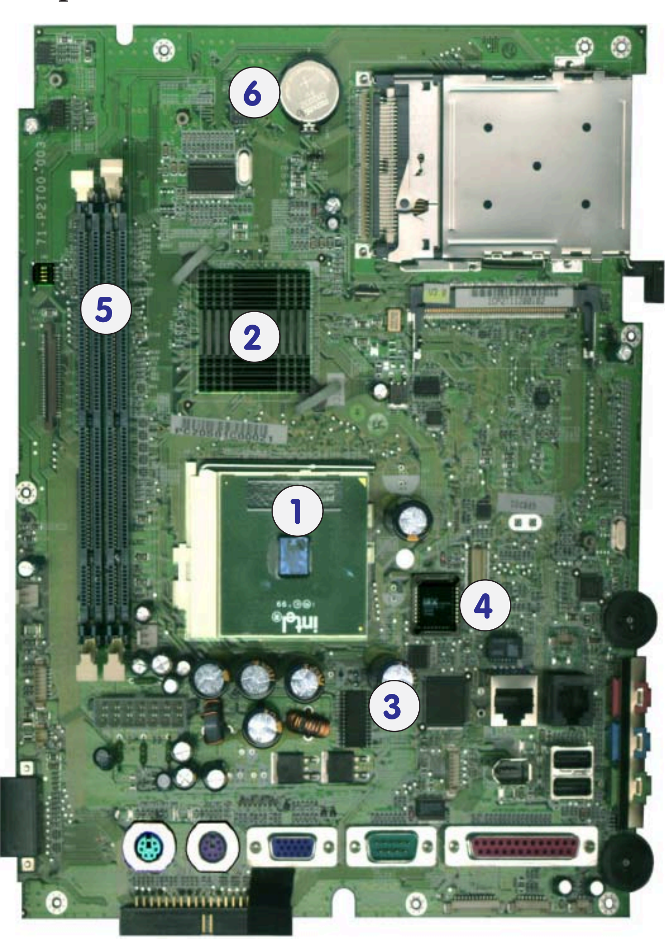




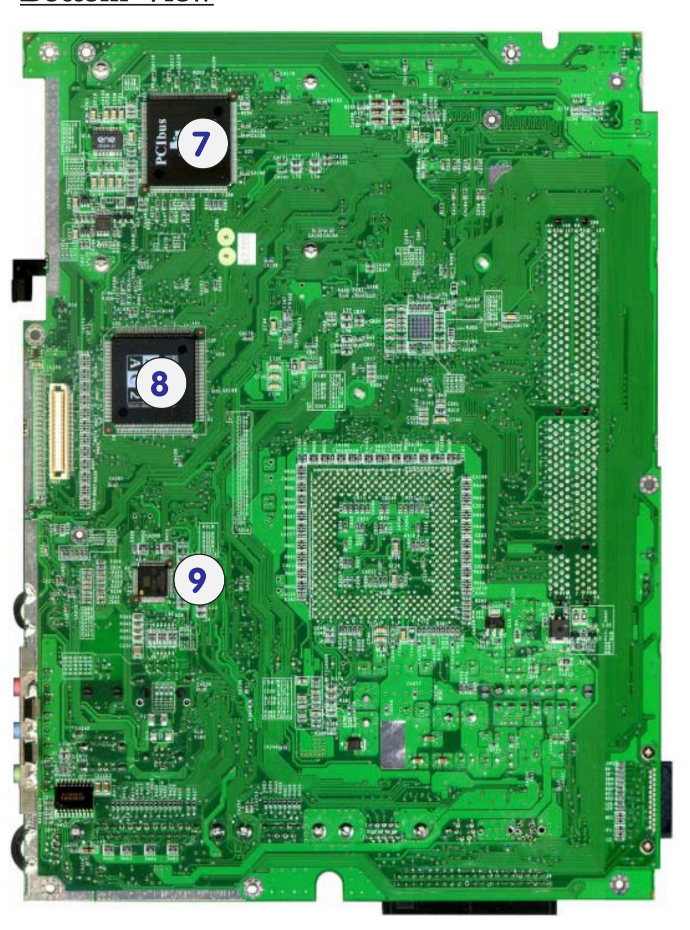
System Board Overview

Key Parts

Top View



Bottom View



Key Parts

Fig. 1 - 5

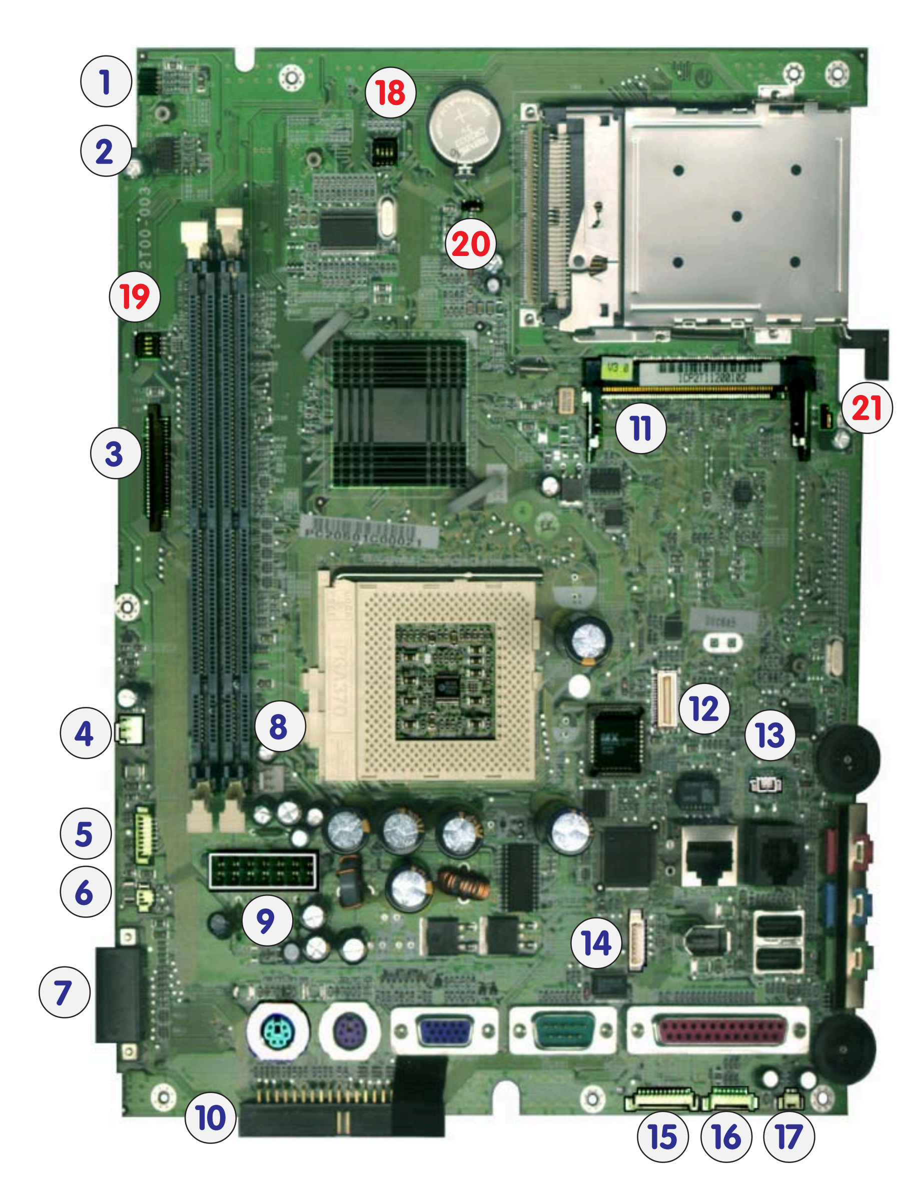
1. CPU (Intel Pentium III or Celeron)
2. SiS630S Single Chipset (Core Logic, Audio, Video & LAN)
3. NSC99A3 Super I/O Controller
4. Flash ROM
5. two DIMM Sockets
6. CMOS Battery
7. PCI1420PDV Cardbus Controller
8. ZURAC2 (Zoom Up/Down Rate Converter)
9. ICS1893 PHY (LAN)

CABLE CONNECTORS, SWITCHES & JUMPERS

CONNECTORS, SWITCHES & JUMPERS

FIG. 1 - 6

1. CN1 (Inverter Cable)
2. CN2 (Bluetooth Module)
3. CN5 (FDD Cable)
4. CN7 (System Fan Cable)
5. CN12 (USB Cable)
6. CN17 (Right Speaker Cable)
7. CN23 (CD Device Cable)
8. CN10 (CPU Fan Cable)
9. CN16 (Power Cable)
10. CN29 (HDD Cable)
11. CN4 (IEEE 1394 Module)
12. CN6 (Modem Module)
13. CN11 (Modem Cable)
14. CN19 (IEEE 1394 Cable)
15. CN30 (LED Cable)
16. CN31 (Inverter Cable)
17. CN32 (Left Speaker Cable)
18. SW1 (CPU Frequency Switch)
19. SW2 (LCD Type Switch)
20. J1 (CMOS Clear Jumper)
21. J2 (Panel VCC Jumper)



2 DISASSEMBLY

This chapter provides step-by-step instructions for disassembling parts and subsystems. When it comes to reassembly, reverse the procedures (unless otherwise indicated).

We suggest you completely review any procedure before you take the computer apart.

CPU and Memory Upgrades:

The upgrade procedures for CPU and system memory involve more than the component-specific removal and replacement procedure. Please pay attention to the component-specific upgrade notes.

Illustrations:

To enhance procedural clarity, the illustrations in this chapter do not include all components. Mylar insulation and adhesive attachments are not shown unless they are critical to the disassembly process.

Maintenance Tools

The following tools are recommended when working on the LCD PC:

- M3 Philips-head screwdriver
- M2.5 Philips-head screwdriver (magnetized)*
- M2 Philips-head screwdriver
- Small flat-head screwdriver
- Pair of needle-nose pliers
- Anti-static wrist-strap

* note Maintenance Precaution #3.

Connections

Connections within the computer are one of four types:

Locking collar sockets for ribbon connectors	To release these connectors, use a small flat-head screwdriver to gently pry the locking collar away from its base. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually *not* indicated.
Pressure sockets for multi-wire connectors	To release this connector type, grasp it at its head and gently rock it from side to side as you pull it out. *Do not pull on the wires themselves.* When replacing the connection, do not try to force it. The socket only fits one way.
Pressure sockets for ribbon connectors	To release these connectors, use a small pair of needle-nose pliers to gently lift the connector away from its socket. When replacing the connection, make sure the connector is oriented in the same way. The pin1 side is usually *not* indicated.
Board-to-board or multi-pin sockets	To separate the boards, gently rock them from side to side as you pull them apart. If the connection is very tight, use a small flat-head screwdriver - *use just enough force to start the separation.*

MAINTENANCE PRECAUTIONS

The following precautions are a reminder.
To avoid personal injury or damage to the computer while performing a removal and/or replacement job, take the following precautions:

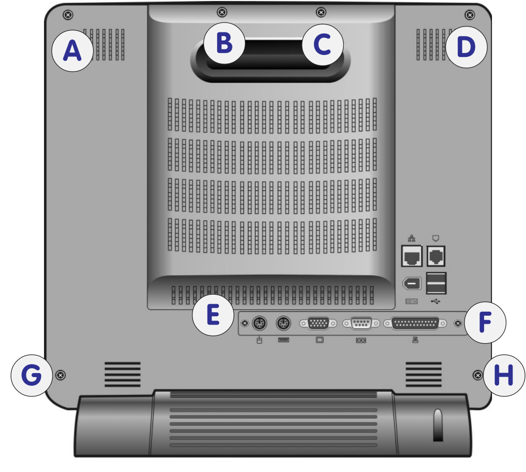
1. **Don't drop it.** Perform your repairs and/or upgrades on a stable surface. If the computer falls, the case and other components could be damaged.
2. **Don't overheat it.** Note the proximity of any heating elements. Keep the computer out of direct sunlight.
3. **Avoid interference.** Note the proximity of any high capacity transformers, electric motors, and other strong magnetic fields. These can hinder proper performance and damage components and/or data. You should also monitor the position of magnetized tools (i.e. screwdrivers).
4. **Keep it dry**. This is an electrical appliance. If water or any other liquid gets into it, the computer could be badly damaged.
5. **Be careful with power.** Avoid accidental shocks, discharges or explosions.
   •Before removing or servicing any part from the computer, turn the computer off and detach any power supplies.
   •When you want to unplug the power cord or any cable/wire, be sure to disconnect it by the plug head. Do not pull on the wire.
6. **Peripherals** – Turn off and detach any peripherals.
7. **Beware of static discharge.** ICs, such as the CPU and main support chips, are vulnerable to static electricity. Before handling any part in the computer, discharge any static electricity inside the computer. When handling a printed circuit board, do not use gloves or other materials which allow static electricity buildup. We suggest that you use an anti-static wrist strap instead.
8. **Beware of corrosion.** As you perform your job, avoid touching any connector leads. Even the cleanest hands produce oils which can attract corrosive elements.
9. **Keep your work environment clean.** Tobacco smoke, dust or other air-born particulate matter is often attracted to charged surfaces, reducing performance.
10. **Keep track of the components.** When removing or replacing any part, be careful not to leave small parts, such as screws, loose inside the computer.

CLEANING

Do not apply cleaner directly to the computer, use a soft clean cloth.
Do not use volatile (petroleum distillates) or abrasive cleaners on any part of the computer.

Back Cover Removal

1. Place the system with its LCD display facing down.
2. Remove the 8 screws (**A**, **B**, **C**, **D**, **E**, **F**, **G** & **H**) which secure the Back Cover to the rest of the system.



Removing 6 Screws from the back of the system
Fig. 2-1

3. Gently remove the cover from the rest of the system.



Back Cover and the rest of the system
Fig. 2-2

CPU Removal

2

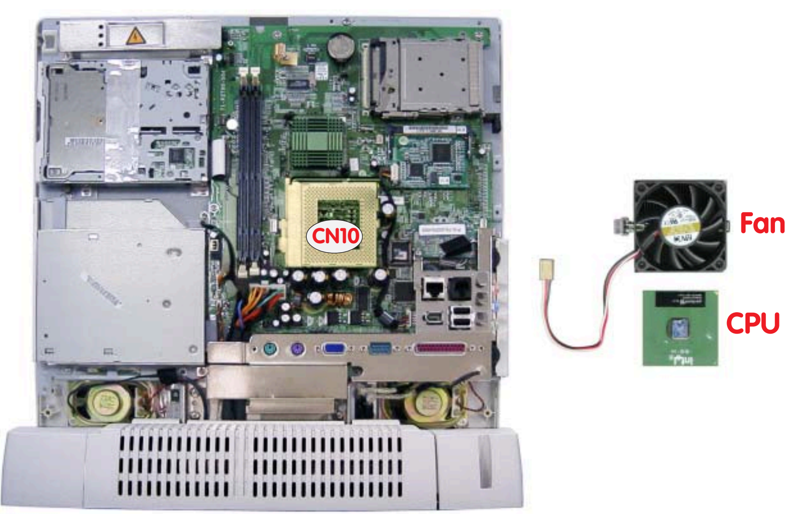
Part A

Remove the Back Cover (page 2-4).

Part B

☞**Note:** If you want to upgrade the CPU, replace the old CPU with the upgraded one and also see the CPU Upgrade Notes on the next page.

1. Unplug the Fan Cable from Connector **CN10**.
2. Disengage both caches at the sides of the Fan from the CPU socket.
3. A thermal pad is attached to the Fan. Remove the Fan with the Thermal Pad from the CPU.
4. Disengage the CPU lever and remove the CPU.



Removing the Fan and the CPU

Fig. 2-3

☞**Note for Replacing the CPU:** : Reverse the removal procedure. Please also note the following:

When inserting the CPU, put the CPU in the CPU socket with the notched corner of the CPU aligning with the notched corner of the CPU socket and then engage the lever.

CPU UPGRADE NOTES

After you install the upgraded CPU, check against the following table to see if you need to adjust switch settings. (Refer to Fig. 2-4 for the location of the SW1 CPU Frequency Switch.)

2

SW1 CPU FREQUENCY SWITCH SETTINGS

TABLE 2-1

CPU		SDRAM	SW1-1	SW1-2	SW1-3	SW1-4
Type	FSB Speed (MHz)	MHz				
Celeron 533A	66	100	OFF	OFF	OFF	OFF
Celeron 600	66	100	OFF	OFF	OFF	OFF
Celeron 633	66	100	OFF	OFF	OFF	OFF
Celeron 667	66	100	OFF	OFF	OFF	OFF
Celeron 700	66	100	OFF	OFF	OFF	OFF
Celeron 733	66	100	OFF	OFF	OFF	OFF
Celeron 766	66	100	OFF	OFF	OFF	OFF
Celeron 800	100	100	ON	OFF	OFF	OFF
Celeron 850	100	100	ON	OFF	OFF	OFF
Celeron 900	100	100	ON	OFF	OFF	OFF
Celeron 950	100	100	ON	OFF	OFF	OFF
PIII 600	100	100	ON	OFF	OFF	OFF
PIII 650	100	100	ON	OFF	OFF	OFF
PIII 700	100	100	ON	OFF	OFF	OFF
PIII 750	100	100	ON	OFF	OFF	OFF
PIII 800	100	100	ON	OFF	OFF	OFF
PIII 850	100	100	ON	OFF	OFF	OFF
PIII 1100	100	100	ON	OFF	OFF	OFF
PIII 600EB	133	133	ON	ON	ON	OFF
PIII 733	133	133	ON	ON	ON	OFF
PIII 800EB	133	133	ON	ON	ON	OFF
PIII 866	133	133	ON	ON	ON	OFF
PIII 933	133	133	ON	ON	ON	OFF
PIII 1000	133	133	ON	ON	ON	OFF

SWITCH SW1 LOCATION

FIG. 2-4



Memory Module Removal

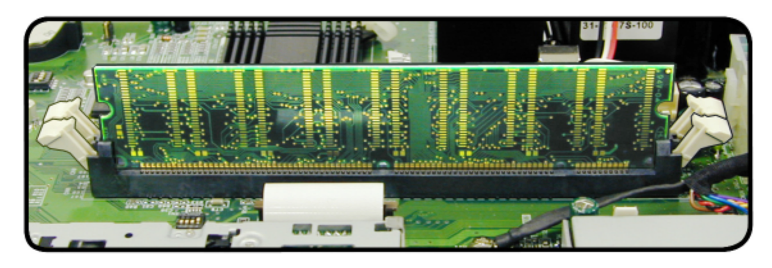
Removing DIMMs

Part A

Remove the Back Cover (page 2-4).

Part B

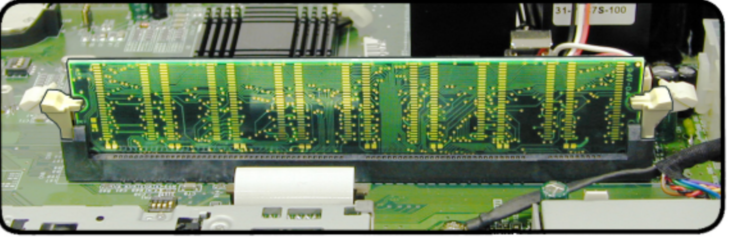
Release the levers on the two ends of the DIMM slot. As you do so, the module will rise slightly and remove the seated DIMM, one at a time.



Removing the DIMMs
Fig. 2-5

Installing DIMMs

1. Insert a DIMM in either slot at about a 20° angle. Grooves on the sides of the module allow you to insert it only one way. Make sure it is seated as far into the slot as it will go. DO NOT FORCE IT. The module should fit in without much pressure. If there is a lot of resistance, check to make sure the DIMM is properly seated.
2. Click in the slot levers to secure the module.
3. Reinstall the Back Cover.



Installing the DIMMs
Fig. 2-6

☞**Memory Upgrade Note:**

- If you have changed the memory configuration, run SCU so the new total can be registered in the CMOS.
- If you have increased memory, check to see if you need to recreate the Hibernate-specific file if the system runs Windows 98 SE with Hibernate support enabled. (Refer to *Chapter 3, Advanced Controls* & *Chapter 5, Drivers & Utilities* of the *User's Manual* for details.)

Modem Module Removal

Part A

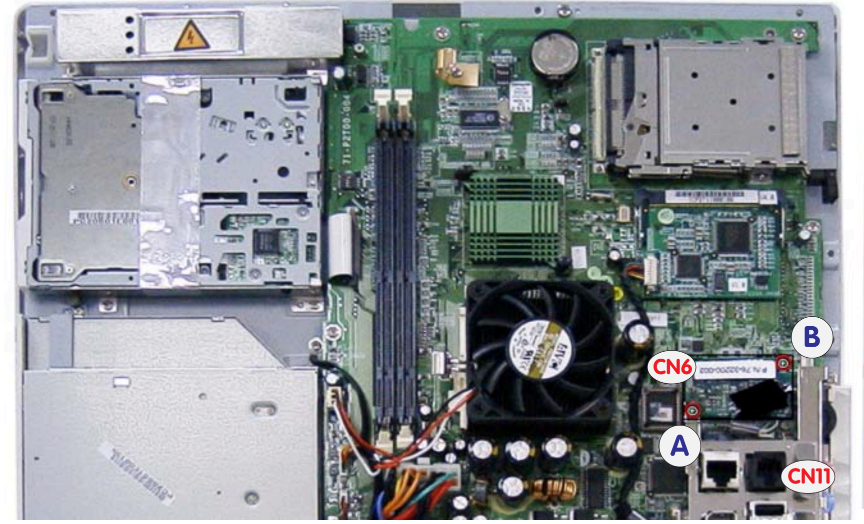
Remove the Back Cover (page 2-4).

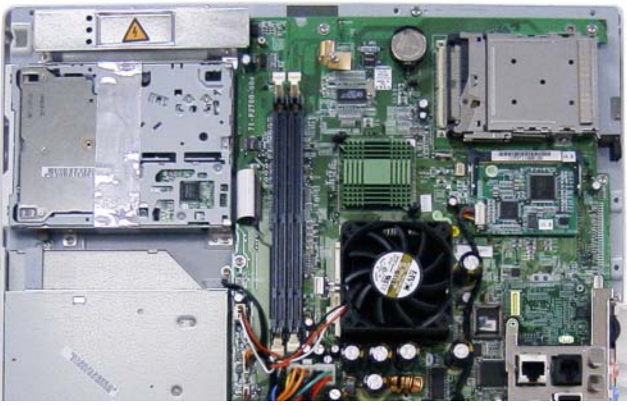
Part B

1. Remove 2 screws (**A** & **B**) securing the Modem Module to the System Board.
2. Disconnect the Modem Cable from Connector **CN11** on the System Board.
3. Remove the Modem Module from Connector **CN6** on the System Board.

Removing the Modem Module

Fig. 2-7







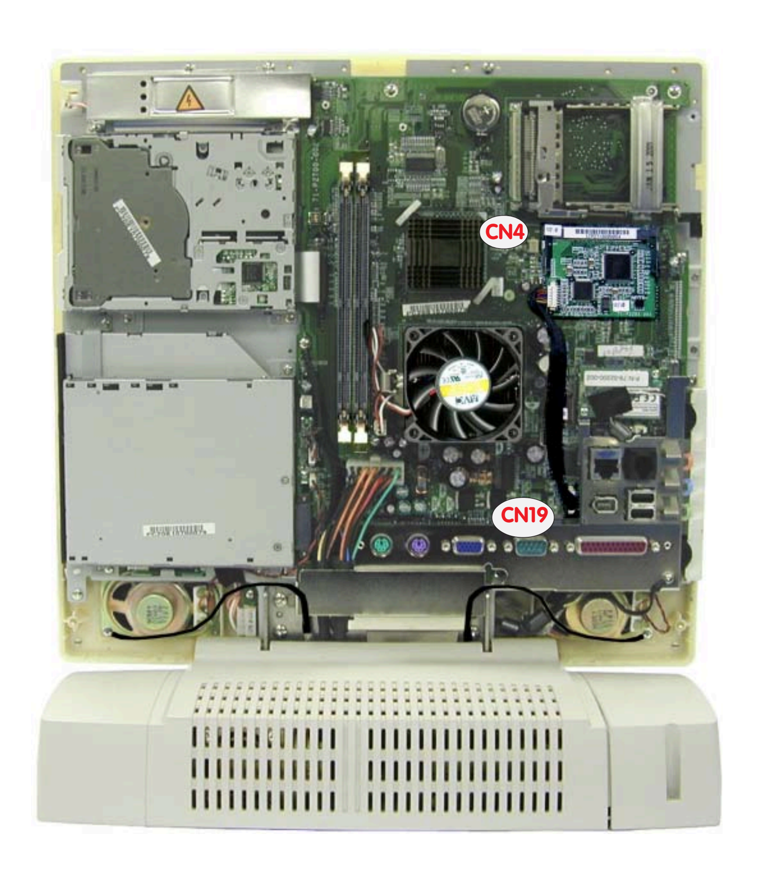
IEEE 1394 Module Removal

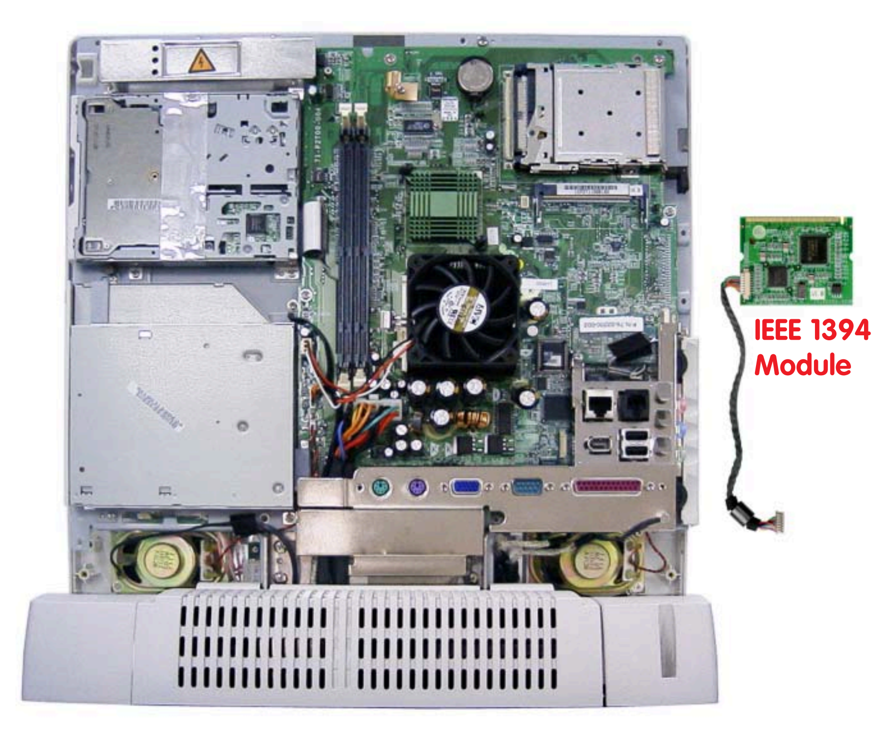
Part A

Remove the Back Cover (page 2-4).

Part B

1. Disconnect the IEEE 1394 Cable from Connector **CN19** on the System Board.
2. Remove the IEEE 1394 Module from Connector **CN4** on the System Board.





Removing the IEEE 1394 Module
Fig. 2-8

FDD Module Removal

Part A

Remove the Back Cover (page 2-4).

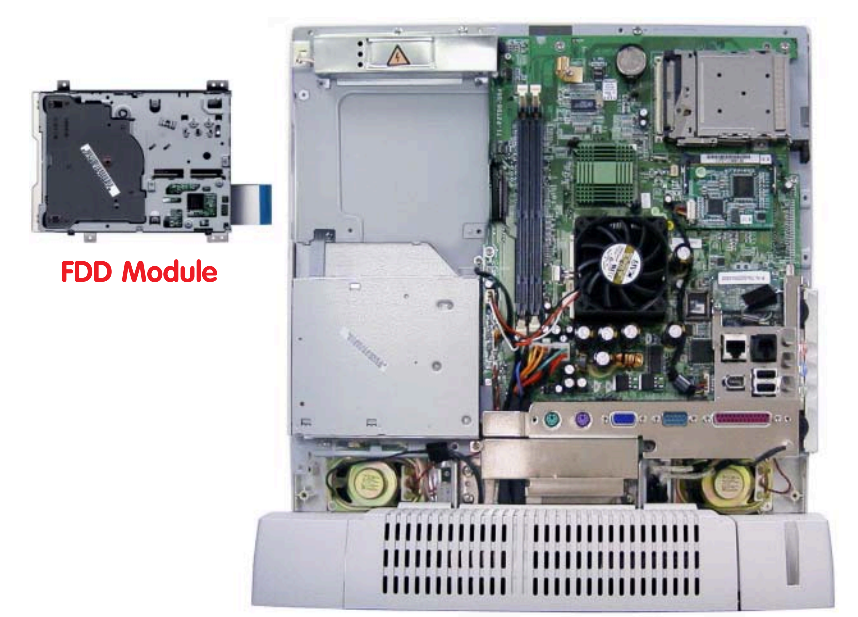
Part B

1. Remove 4 screws (**A**, **B**, **C** & **D**).
2. Separate the FDD Module from the rest of the system by disconnecting the FDD Cable from the System Board at Connector **CN5**.

Removing the FDD Module (1)
Fig. 2-9



Removing the FDD Module (2)
Fig. 2-10



CD Device Module Removal

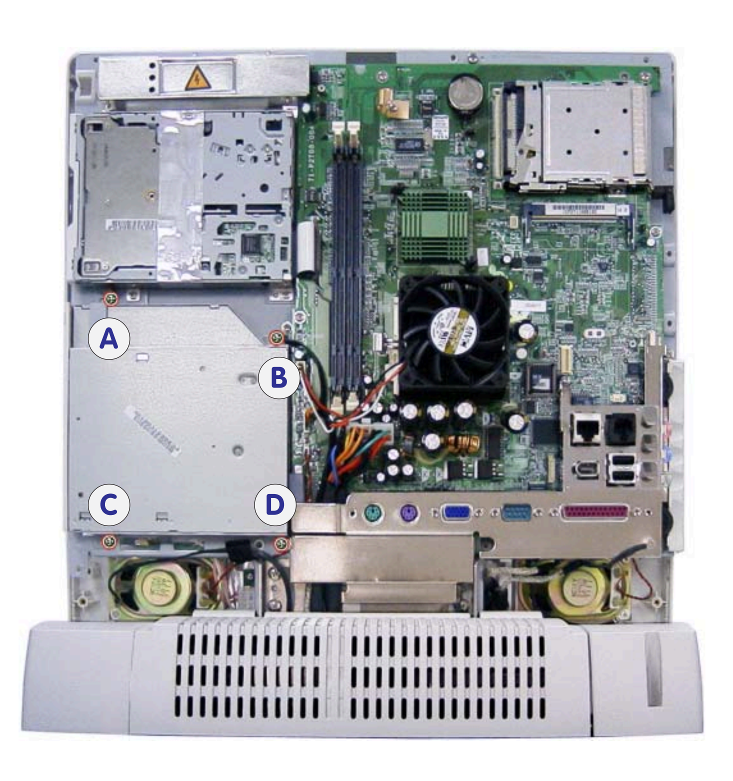
The CD device module can be the CD-ROM Module, DVD Module or CD-RW Module.

Part A

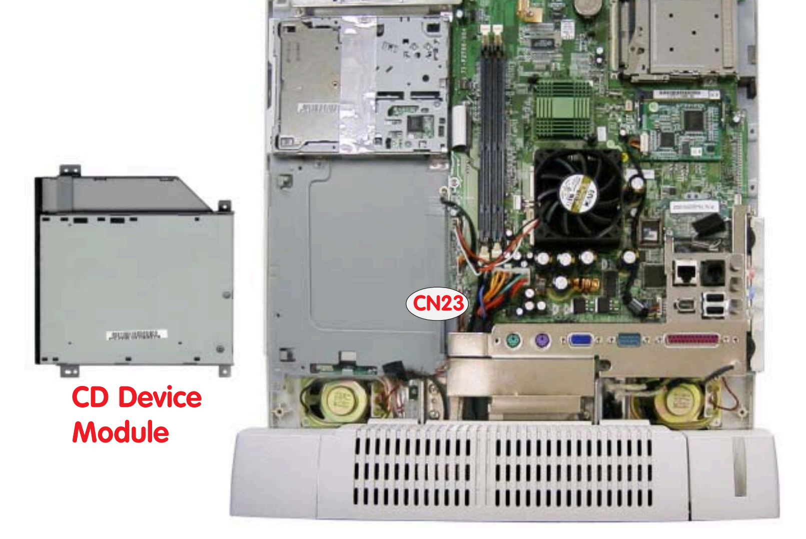
Remove the Back Cover (Page 2-4).

Part B

1. Remove 4 screws (**A**, **B**, **C** & **D**).
2. Separate the CD device module from the rest of the system by disconnecting the device cable from Connector **CN23** on the System Board.



Removing the CD Device Module (1)
Fig. 2-11



Removing the CD Device Module (2)
Fig. 2-12

2

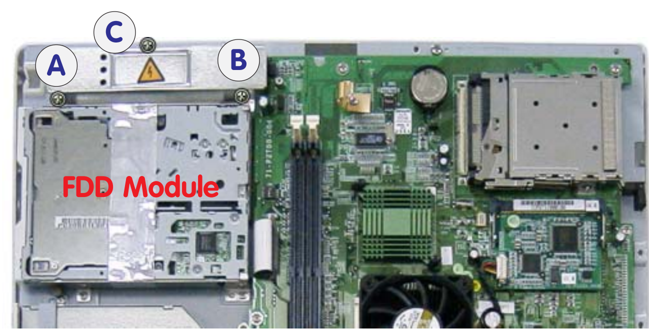
INVERTER BOARD REMOVAL

Part A

Remove the Back Cover (Page 2-4).

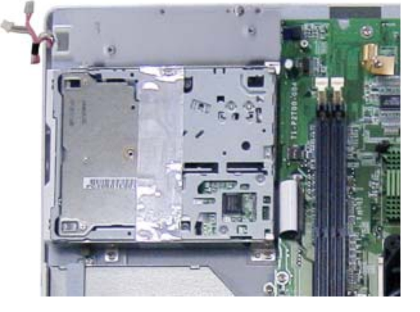
Part B

1. Remove the Inverter Shielding Plate by removing 3 screws (**A**, **B** & **C**) which secure it to the rest of the system. (If you have already removed the FDD module, Screws A & B have already been removed during the process.)
2. Remove 2 screws (**D** & **E**) which secure the Inverter Board and the Inverter Mylar to the rest of the system.
3. Disconnect the following 3 cables:
   (C1 & C2) The LCD to Inverter Board (two cables from Connector **CN2**).
   (C3) The Inverter Board to System Board (from Connector **CN1**).
4. Separate the Inverter Board and the Inverter Mylar.









REMOVING THE INVERTER BOARD
FIG. 2-13



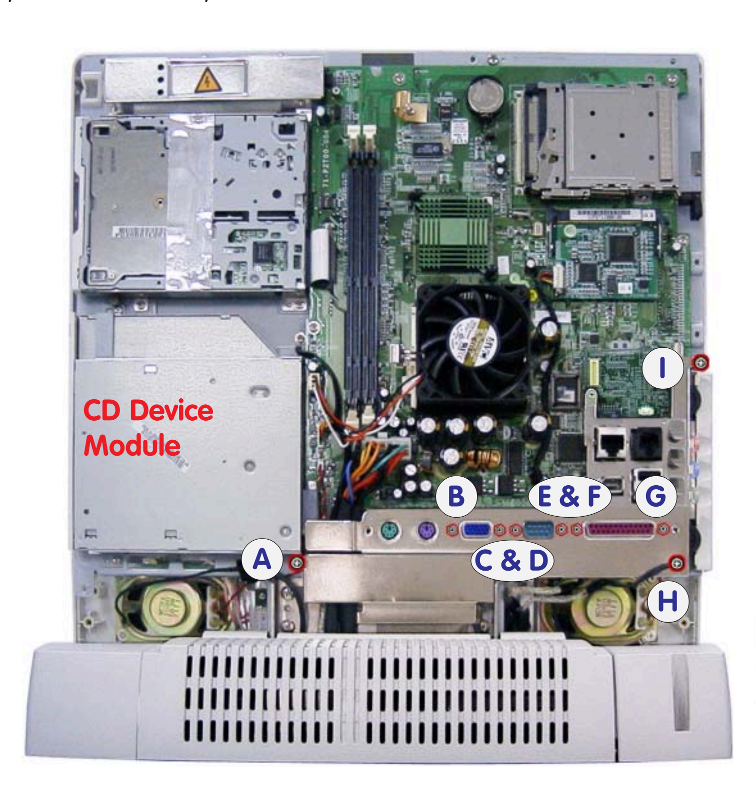
I/O Bracket Removal

Part A

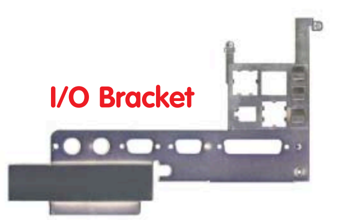
1. Remove the Back Cover (page 2-4).
2. Remove the Modem Module (page 2-8).

Part B

Remove the I/O Bracket by removing 9 screws (**A**, **B**, **C**, **D**, **E**, **F**, **G**, **H** & **I**) which secure it to the rest of the system. (If you have already removed the CD device module, Screw **A** has already been removed during the process.)







Removing the I/O Bracket
Fig. 2-14

2

SYSTEM BOARD REMOVAL

Part A

Remove the Back Cover (page 2-4).

Remove the Modem Module (page 2-8).

Remove the I/O Bracket (page 2-13).

Part B

1. Disconnect the following 10 cables from the System Board:

   10 Cables

   (C1) The Inverter Board to System Board (from Connector **CN1**).

   (If you have already removed the Inverter Board, the Inverter Cable has already been removed during the process.)

   (C2) The FDD Module to System Board (from Connector **CN5**).

   (If you have already removed the FDD Module, the FDD Cable has already been removed during the process.)

   (C3) The USB Board to System Board (from Connector **CN12**).

   (C4) The Right Speaker to System Board (from Connector **CN17**).

   (C5) The CD device module to System Board (from Connector **CN23**).

   (If you have already removed the CD device module, the device cable has already been removed during the process.)

   (C6) The Power Supply to System Board (from Connector **CN16**).

   (C7) The HDD to System Board (from Connector **CN29**).

   (C8) The LED + Inverter Board to System Board (LED Cable from Connector **CN30**).

   (C9) The LED + Inverter Board to System Board (Inverter Cable from Connector **CN31**).

   (C10) The Left Speaker to System Board (from Connector **CN32**).

2. Disconnect the following 2 ground wires from the System Board:

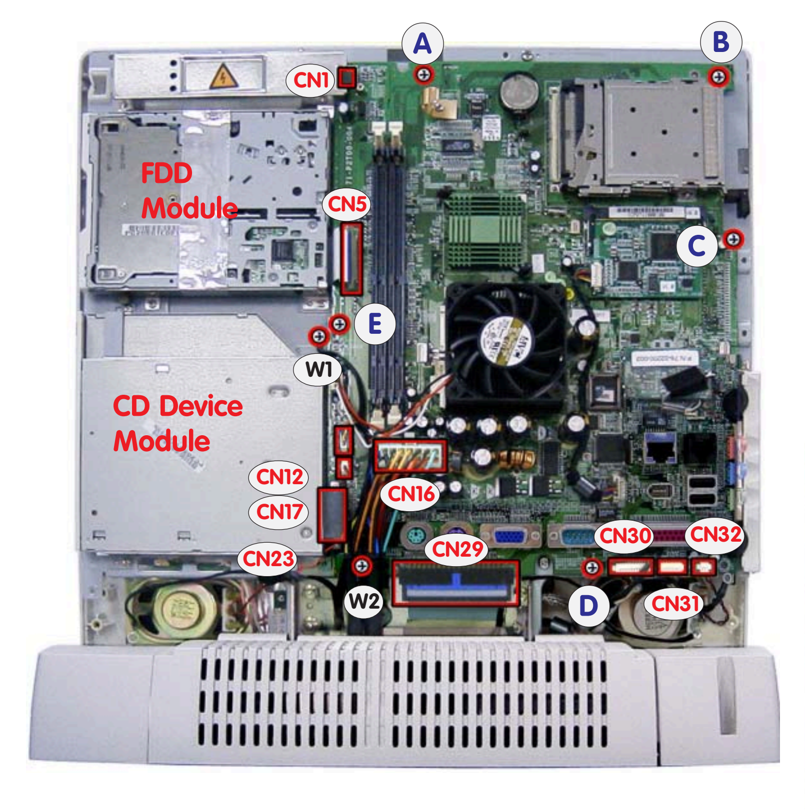
   2 Ground Wires

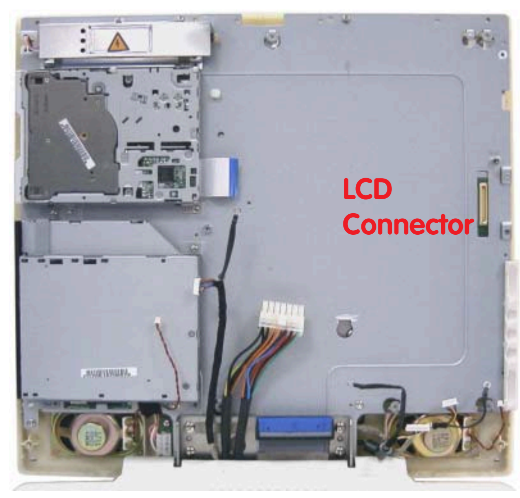
   (W1) A ground wire with the USB Cable fixed to the System Board with a screw.

   (W2) A ground wire with the Power Cable fixed to the System Board with a screw.

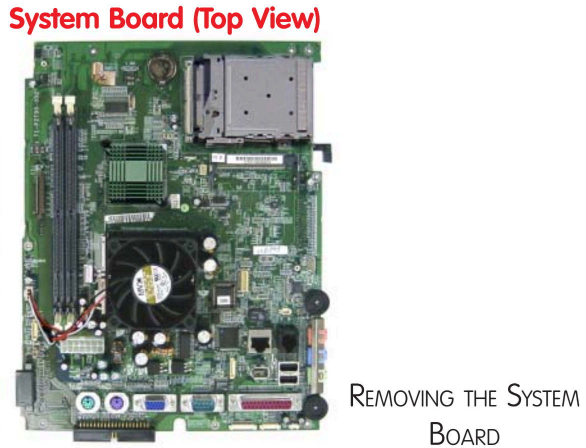
3. Remove 5 screws (**A**, **B**, **C**, **D** & **E**)

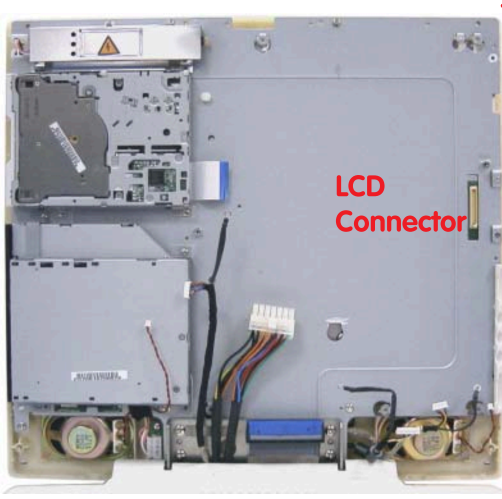
4. The System Board is connected to the rest of the system (i.e. LCD Module) via a board-to-board connector. Remove the System Board from the LCD Connector.





System Board (Top View)





System Board (Bottom View)



Removing the System Board

Fig. 2-15

2

LCD MODULE REMOVAL

Part A

Remove the Back Cover (page 2-4).
Remove the Modem Module (page 2-8).
Remove the I/O Bracket (page 2-13).

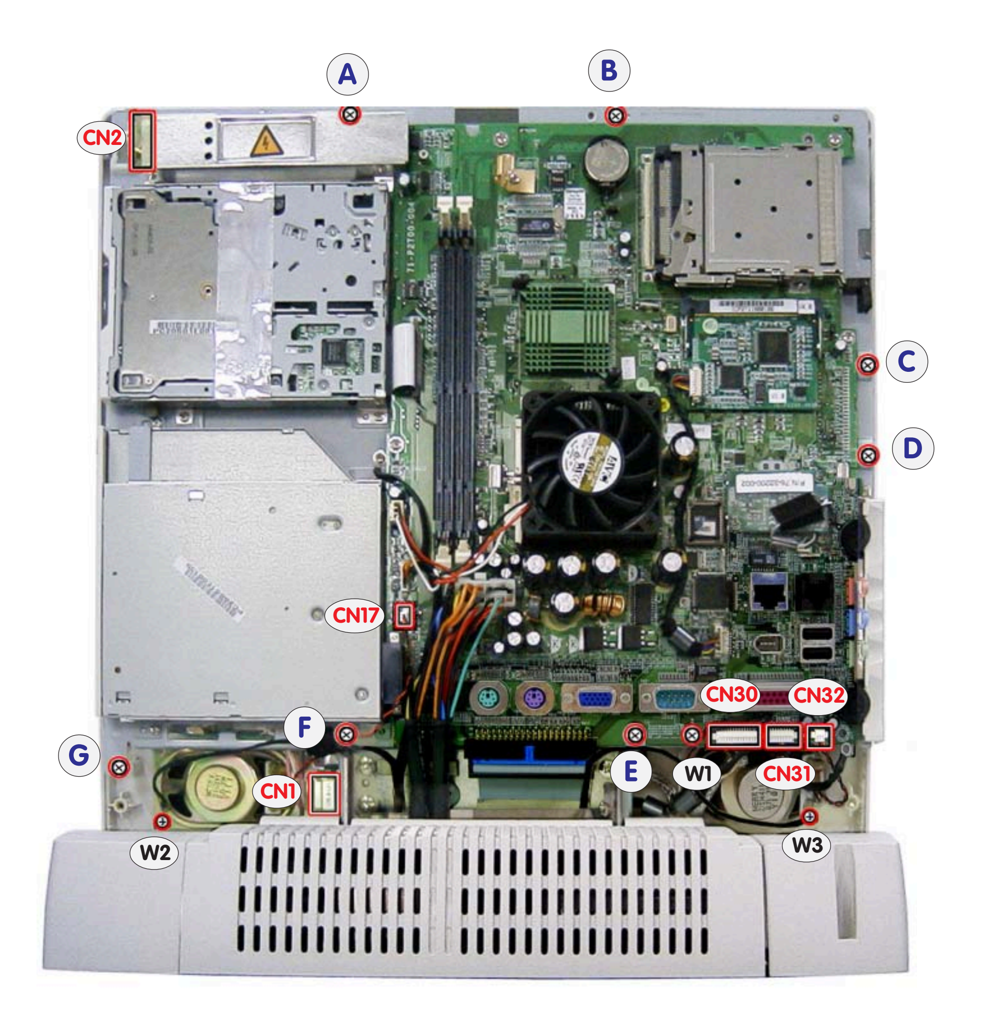
Part B

1. Remove 7 screws (**A**, **B**, **C**, **D**, **E**, **F** & **G**).
2. Disconnect the following 7 cables.

   7 Cables

   (C1 & C2) The LCD to Inverter Board (2 cables from Connector **CN2**).
   (C3) The Right Speaker to System Board (from Connector **CN17**)
   (C4) The Converter Board to LED + Inverter Board (from Connector **CN1**).
   (C5) The LED + Inverter Board to System Board (LED Cable from Connector **CN30**).
   (C6) The LED + Inverter Board to System Board (Inverter Cable from Connector **CN31**).
   (C7) The Left Speaker to System Board (from Connector **CN32**)
3. Disconnect the following 3 ground wires.

   (W1) A ground wire with the LED Cable fixed to the System Board with a screw.
   (W2) A ground wire fixed to the Right Speaker with a screw.
   (W3) A ground wire fixed to the Left Speaker with a screw.



Removing 7 Screws, 6 Cables & 3 Ground Wires

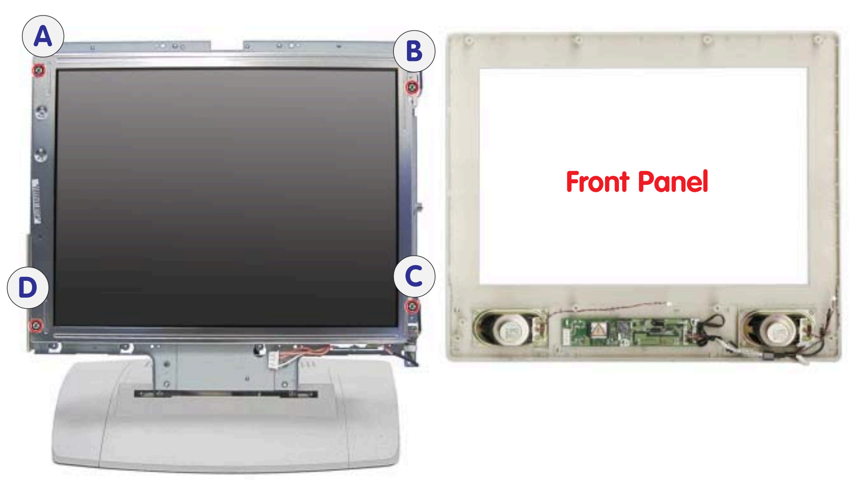
Fig. 2-16

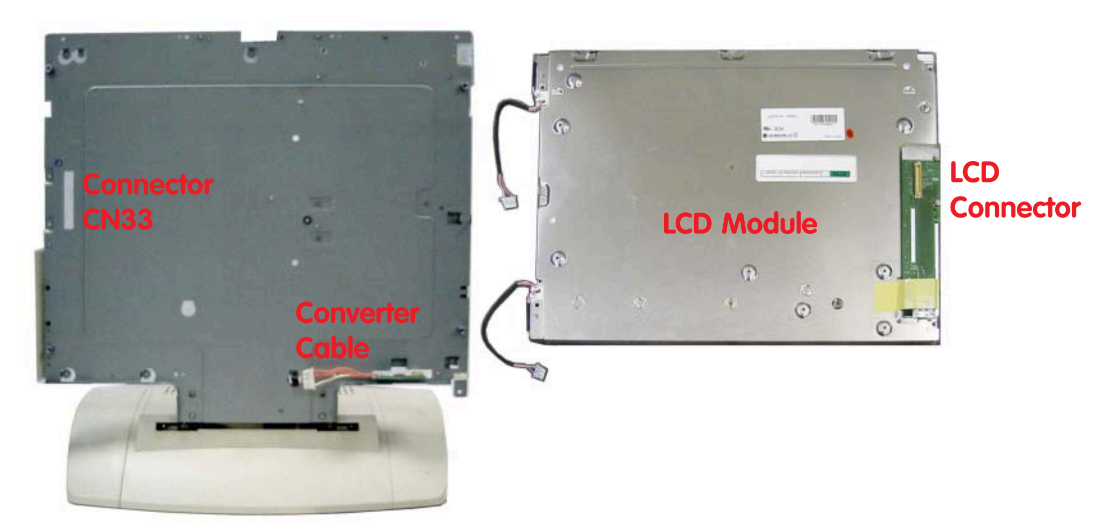
4. Remove the LCD Module.

A. Remove 4 screws (**A**, **B**, **C** & **D**) to separate the Front Panel from the rest of the system.

At this point the LCD Module is still connected to the System Board at a board-to-board connector and to the Converter Board.

B. Remove the LCD Module by disconnecting it from Connector **CN33** on the reverse side of the System Board and disconnecting the Converter Cable.





Removing the LCD Module
Fig. 2-17

LED + Inverter Board Removal

Part A

Remove the Back Cover (page 2-4).

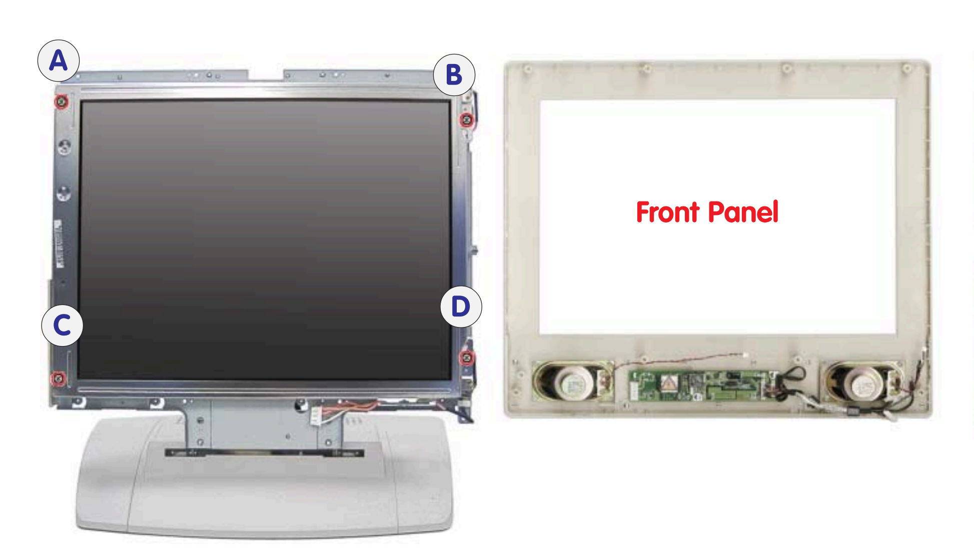
Remove the Modem Module (page 2-8).

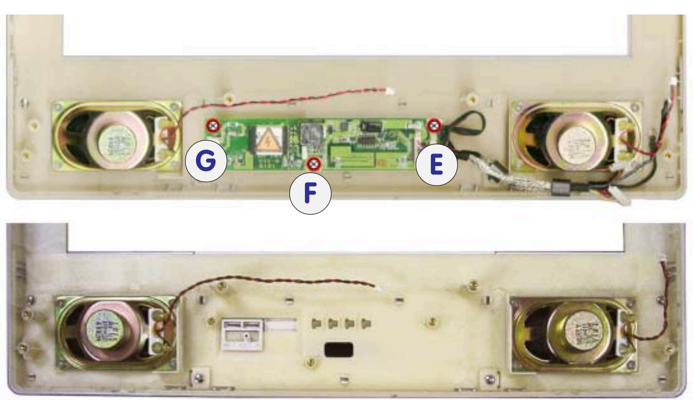
Remove the I/O Bracket (page 2-13).

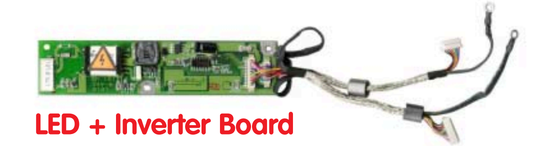
Perform Steps 1, 2 & 3 of Part B of the LCD Module Removal Procedure (page 2-16).

Part B

1. Separate the Front Panel from the rest of the system by removing 4 screws (**A**, **B**, **C** & **D**).
2. Separate the LED + Inverter Board from the Front Panel by removing 3 screws (**E**, **F** & **G**).







Removing the LED + Inverter Board

Fig. 2-18

Converter Board Removal

Part A

Remove the LCD Module (pages 2-16 ~ 2-18).

Part B

Separate the Converter Board from the rest of the system by removing Screw **A**.



Removing the Converter Board
Fig. 2-19

Speaker Removal

Part A

Remove the Back Cover (page 2-4).

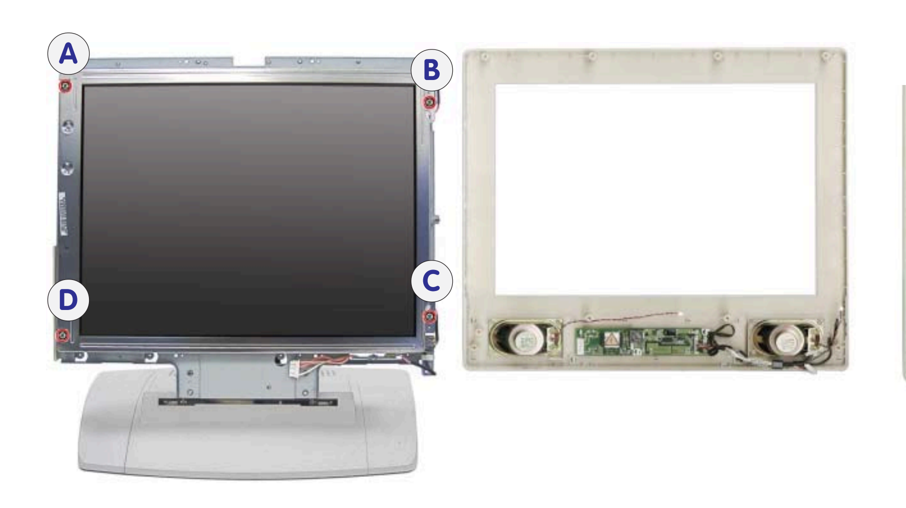
Remove the Modem Module (page 2-8).

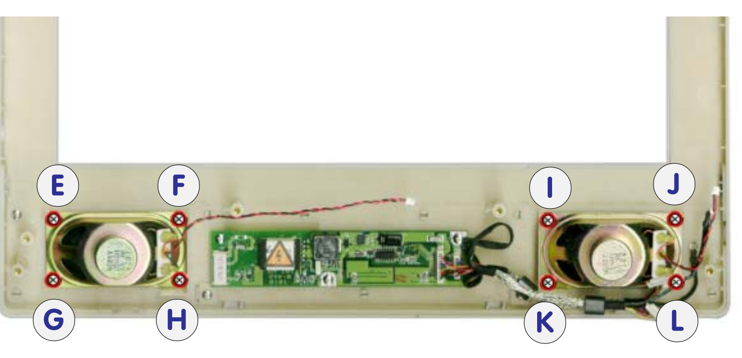
Remove the I/O Bracket (page 2-13).

Perform Steps 1, 2 & 3 of Part B of the LCD Module Removal Procedure (page 2-16).

Part B

1. Separate the Front Panel from the rest of the system by removing 4 screws (**A**, **B**, **C** & **D**).
2. Separate the Speakers from the Front Panel by removing 8 screws (**E**, **F**, **G**, **H**, **I**, **J**, **K** & **L**).





Separating the Speakers from the Front Panel

Fig. 2-20

Base Assembly Removal

Part A

Remove the Back Cover (page 2-4).

Remove the Modem Module (page 2-8).

Remove the I/O Bracket (page 2-13).

Part B

Separate the Base Assembly from the rest of the system.

A. Disconnect the following 3 cables and 3 ground wires from the System Board.

3 Cables

(C1) The Power Supply to System Board (Connector **CN16**).

(C2) The HDD to System Board (from Connector **CN29**)

(C3) The USB Board to System Board (from Connector **CN12**)

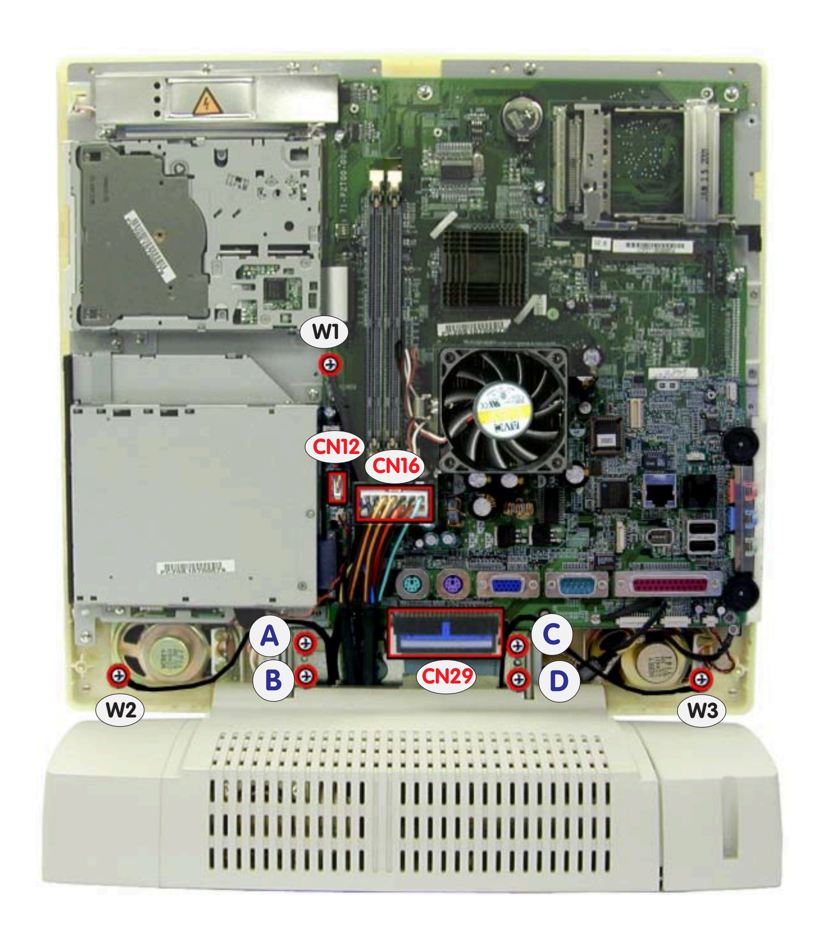
3 Ground Wires

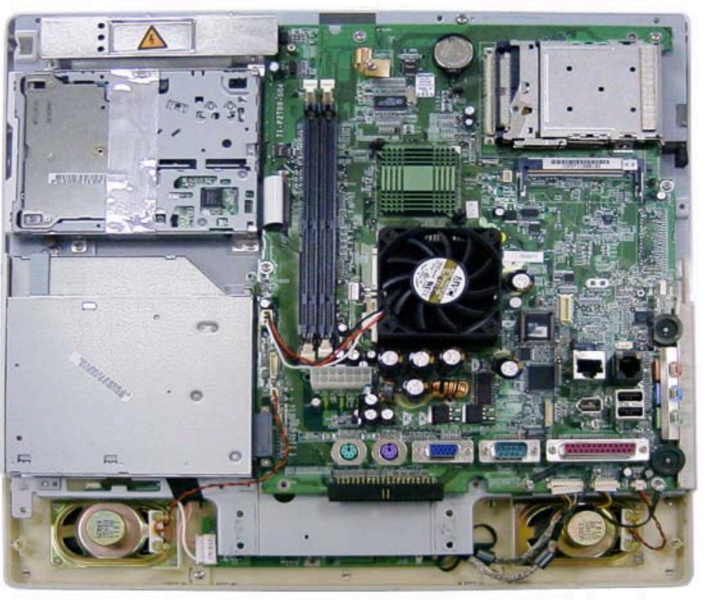
(W1) A ground wire with the USB Cable fixed to the System Board with a screw.

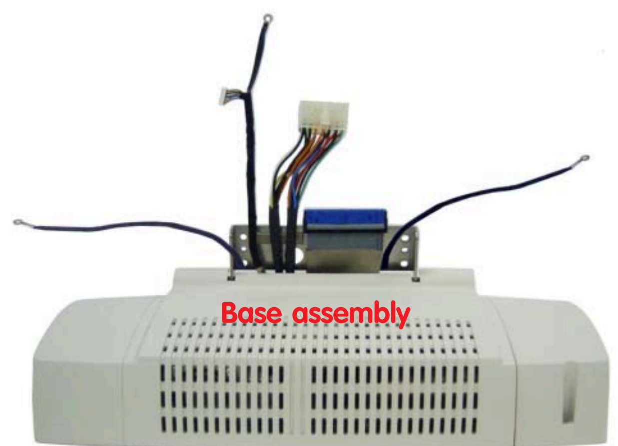
(W2) A ground wire fixed to the Right Speaker with a screw.

(W3) A ground wire fixed to the Left Speaker with a screw.

B. Remove 4 screws (**A**, **B**, **C** & **D**).







SEPARATING THE BASE ASSEMBLY FROM THE SYSTEM

FIG. 2-21

Power Supply Removal

The Power Supply is in the Base Assembly.

Part A

Remove the Base Assembly. (pages 2-22 & 2-23)

Part B

1. Remove the HDD Cartridge.

   A. Turn the Base Assembly upside down and remove Screw **A**. (Only the LP200ST has this screw.)

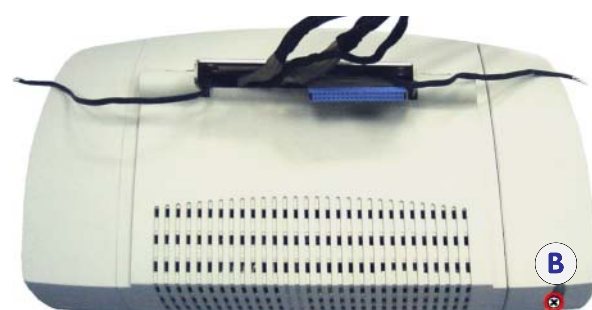
   B. Remove Screw **B** and pull the HDD Cartridge out from its bay until the HDD's connectors are exposed.

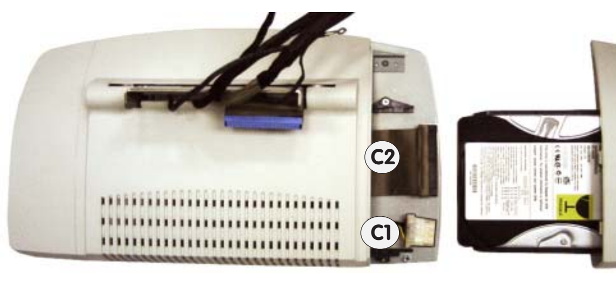
   C. Disconnect the following cables.

   (C1) The Power Supply to HDD (Power Cable).

   (C2) The System Board to HDD (HDD Signal Cable).

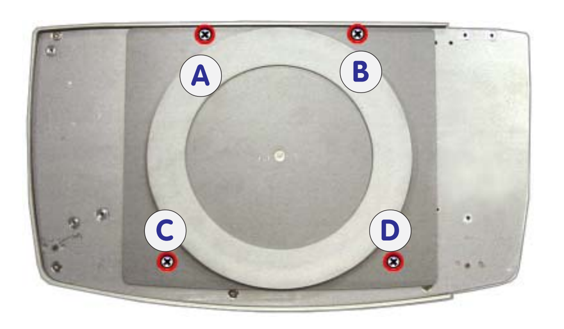






Removing the HDD Cartridge
Fig. 2-22

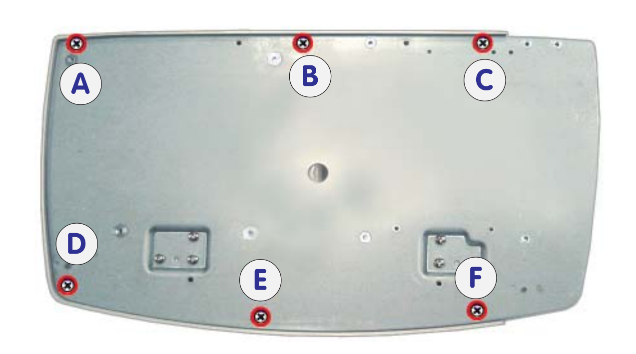
2. Remove the Swivel Stand.
   A. Turn the Base Assembly upside down.
   B. Remove 4 screws (**A**, **B**, **C** & **D**).



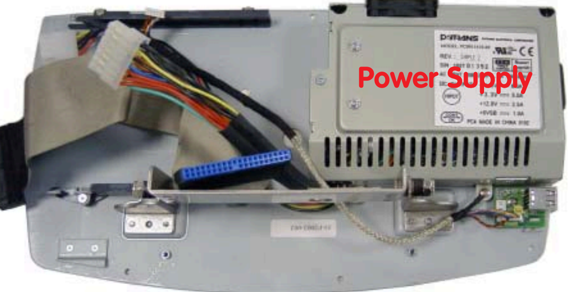
REMOVING THE SWIVEL STAND
FIG. 2-23

2

3. Separate the Top Cover of the Base Assembly from the rest of the Base Assembly by removing 6 screws (**A**, **B**, **C**, **D**, **E** & **F**).

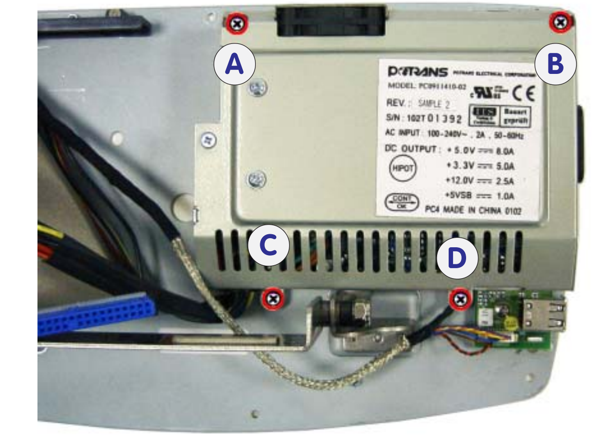


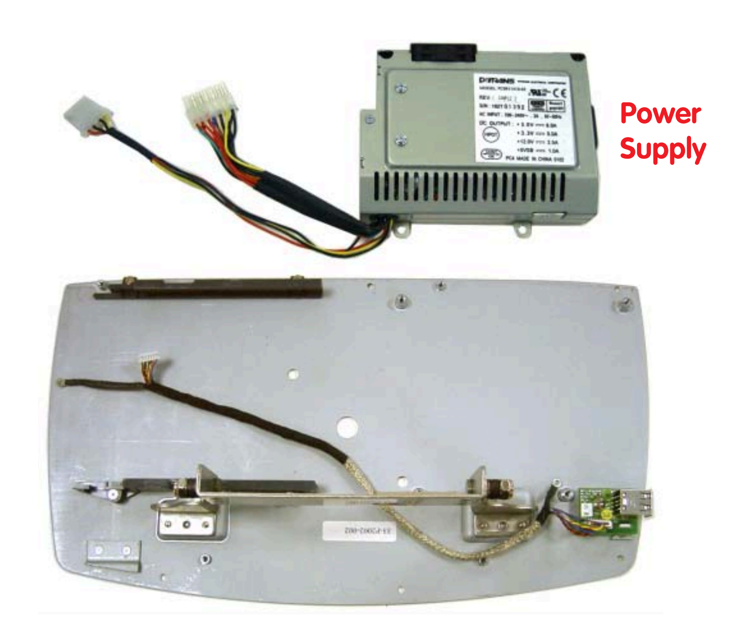




REMOVING THE TOP COVER OF THE BASE ASSEMBLY
FIG. 2-24

4. Separate the Power Supply from the rest of the Base Assembly by removing 4 screws (**A**, **B**, **C** & **D**).





Removing the Power Supply
Fig. 2-25

USB Board Removal

The USB Board is in the Base Assembly. (LP200SC only)

Part A

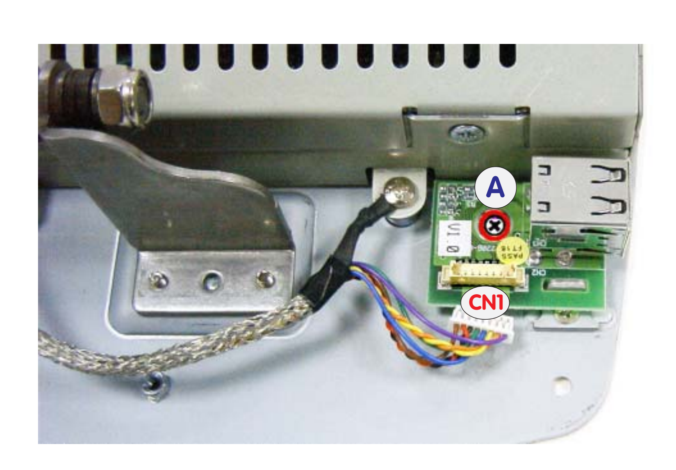
Remove the Base Assembly. (pages 2-22 & 2-23)
Remove the HDD Cartridge. (Step 1 of Part B of the Power Supply Removal Procedure, page 2-24)
Remove the Swivel Stand. (Step 2 of Part B of the Power Supply Removal Procedure, page 2-25)
Remove the Top Cover of the Base Assembly (Step 3 of Part B of the Power Supply Removal Procedure, page 2-25)

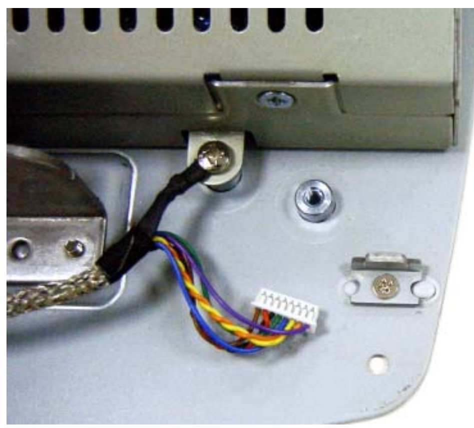
Part B

Separate the USB Board from the rest of the Base Assembly.

A. Disconnect the USB Cable from Connector **CN1** on the USB Board.

B. Remove Screw **A** which secures the board to the Bottom Cover of the Base Assembly.







Removing the USB Board
Fig. 2-26

Hard Disk Drive Removal

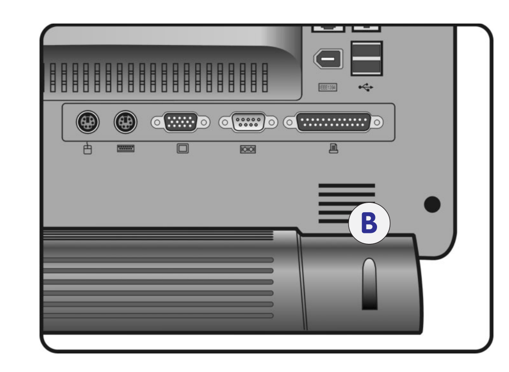
The HDD is housed in the Base Assembly.

1. Place the LCD PC with its LCD panel facing up and remove Screw **A**. (Only the LP200ST has this screw.)
2. Remove Screw **B**.

Removing Screws A & B

Fig. 2-27



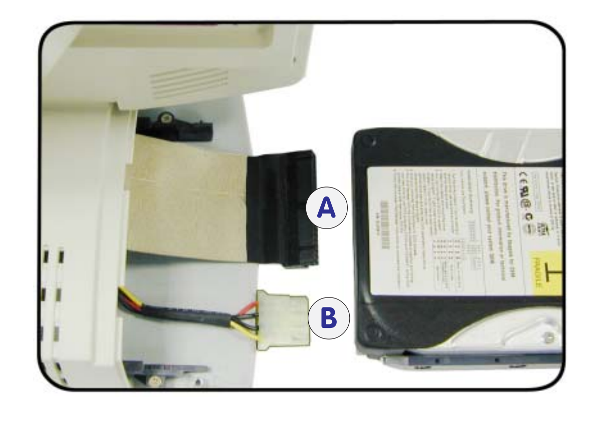


3. Pull the HDD Cartridge out from its bay until the HDD's connectors are exposed.
4. Separate the HDD Cartridge from the rest of the system by disconnecting the HDD's Signal Cable (**A**) and Power Cable (**B**). (Both of these cables are a tight fit.)

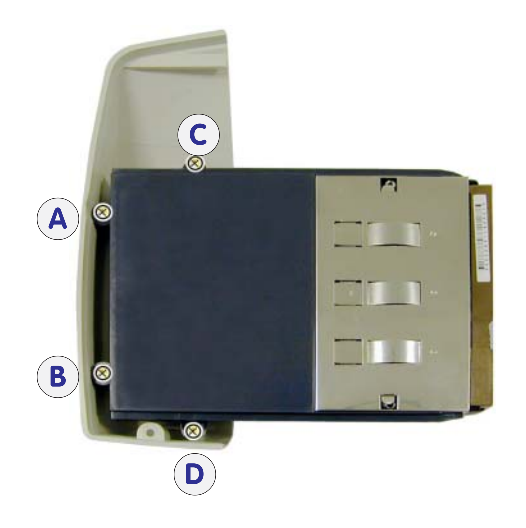
Pulling the HDD Cartridge out and Disconnecting the HDD Signal & Power Cables

Fig. 2-28



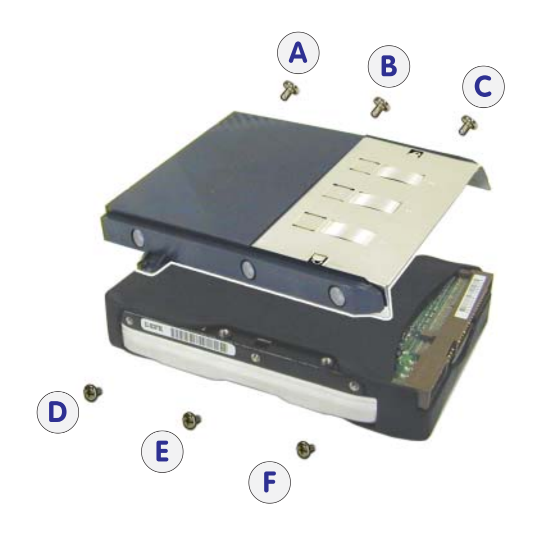


4. Turn the cartridge upside down.
5. Remove 4 screws (**A**, **B**, **C** & **D**) to separate the HDD Frame from the Cartridge Casing.



Separating the HDD Frame from the Cartridge Casing
Fig. 2-29

6. Remove 6 screws (**A**, **B**, **C**, **D**, **E** & **F**) to separate the HDD from its frame.



Separating the HDD from its Frame
Fig. 2-30

NOTES:





PART LISTS

This appendix breaks down the LCD PC's construction into a series of illustrations. The component part numbers are indicated in the tables opposite the drawings. It includes two sets of part lists for the LP200SC and LP200ST respectively.

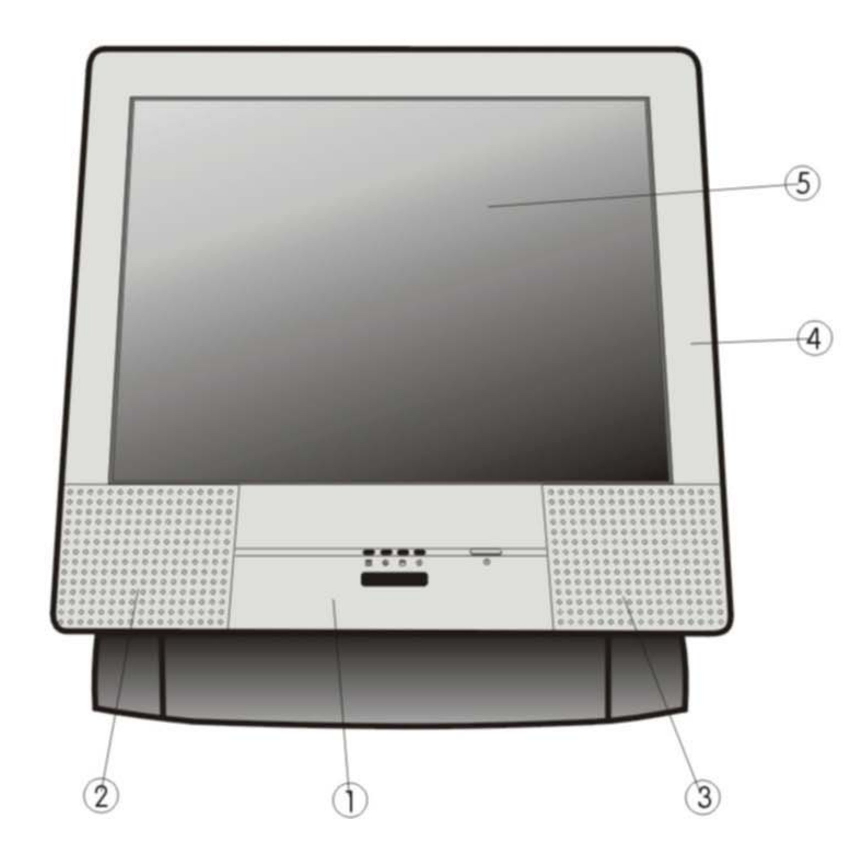
Note: This section indicates the *manufacturer's* part numbers. Your organization may use a different system, so be sure to cross-check any relevant documentation.

Note: Be sure to check any update notices. The parts shown in these illustrations are appropriate for the system at the time of publication. Over the product life, some parts may be improved or re-configured, resulting in *new* part numbers.

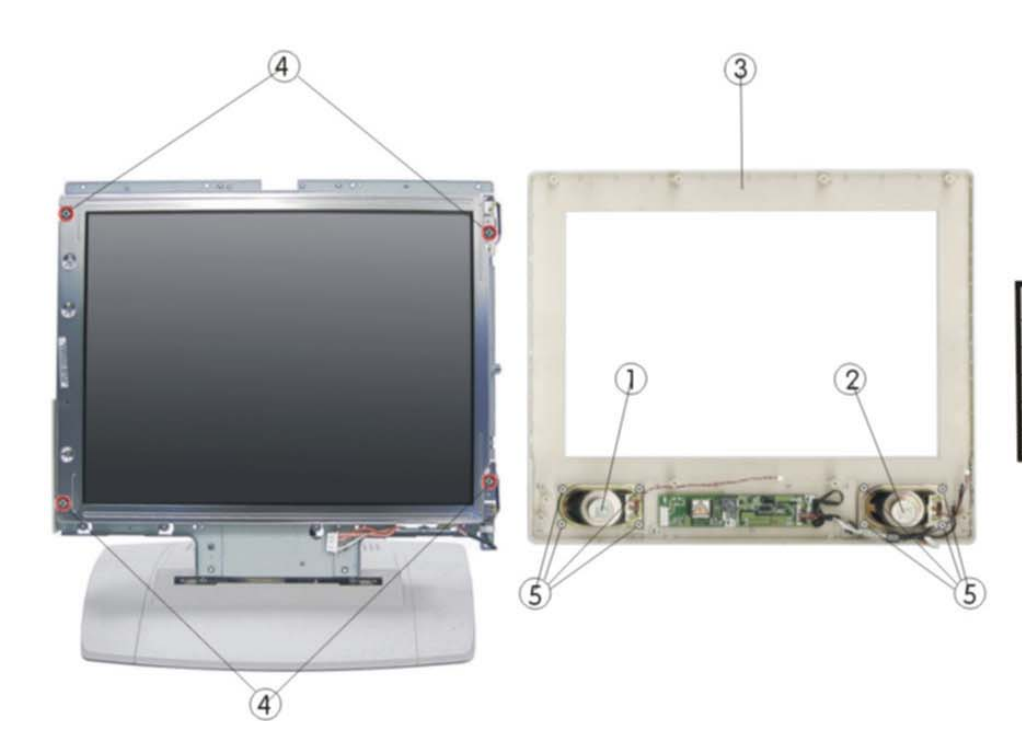


LP200SC FRONT ASSEMBLY (PART I)

FIG. A–1



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	CONTROL PANEL MODULE (W/O LOGO)	79-P200D-0C1	1	
02	SPEAKER COVER(L) PC/ABS LP200C	39-P2010-001	1	
03	SPEAKER COVER(R) PC/ABS LP200C	39-P2009-001	1	
04	LCD F-CVR MODULE FOR HYU /SHARP LP200C	79-P200D-0AS	1	
05	LCD T SHARP LQ150xI0G51-6E 15" XGA	509-L2215-A01-E	1	



LP200SC FRONT ASSEMBLY (PART II)

FIG. A–2

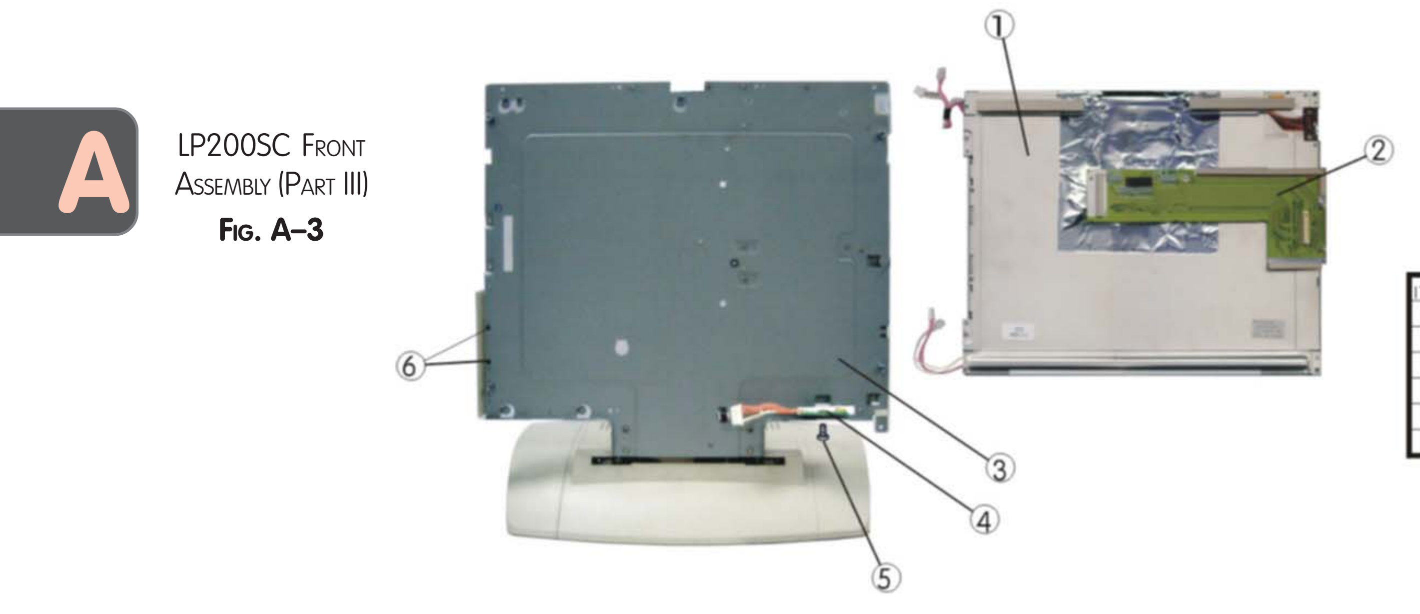
ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	SPK.WITH CABLE(R) 71Wx41Dx28.7H 3W 8Ω (DSH411-001)	23-5A230-131	1	
02	SPK.WITH CABLE(L) 71Wx41Dx28.7H 3W 8Ω (DSH411-002)	23-5A230-600	1	
03	LCD F-CVR MODULE FOR HYU./SHARP LP200C	79-P200D-0A5	1	
04	SCREW M3x10L PNI ICT NY	35-01130-100	4	
05	SCREW M3x4L KI NI ICT	35-B1130-4RB	8	



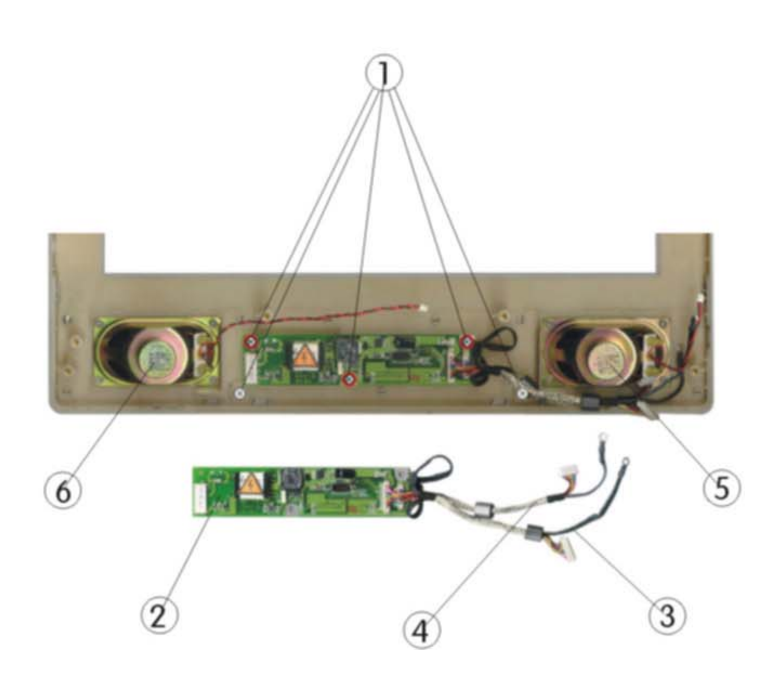
A

LP200SC FRONT ASSEMBLY (PART III)

FIG. A–3



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	LCD T SHARP LQ150xIDG51 15" (EPSON 專用)	509-L2215-A01-E	1	
02	LCD CONVERTER BOARD FOR SHARP V3.0 LP200SC	77-P2T02-003	1	
03	BRACKET ASS'Y FOR SHARP 150 LP200C	79-P2C01-004	1	
04	CONVERTER BOARD FOR SHARP V4.0 LP200	77-P2204-024	1	
05	SCREW M2.5x4L B NI ICT NY	35-41125-4RA	1	
06	M2x3L KI BZ ICT NY	35-B6120-3R0	2	



LP200SC FRONT ASSEMBLY (PART IV)

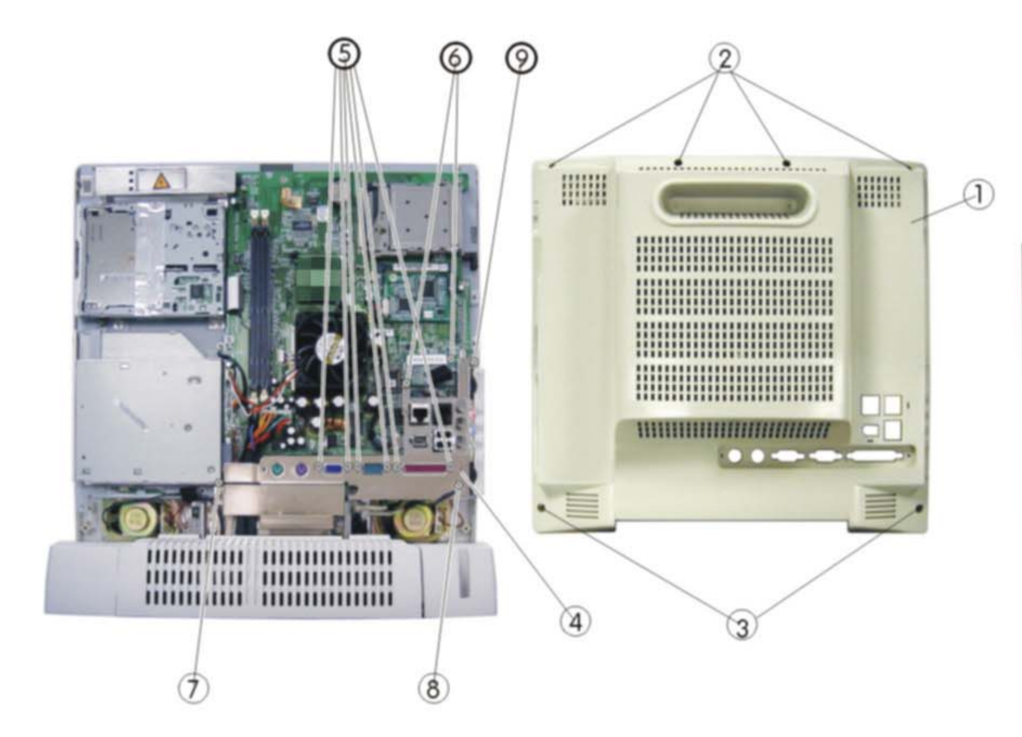
FIG. A–4

ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	SCREW M2.5x5L KI NI ICT	35-41125-5R0	5	
02	INVERTER+LED BOARD FOR HYU./SHARP V7A	77-P2C14-002	1	
03	WIRE CABLE FOR LED SIGNAL 12P V2.0 LP200 ST	43-P2T0F-021	1	
04	WIRE CABLE FOR LED POWER 8P V2.0 LP200 ST	43-P2T0F-012	1	
05	SPK. WITH CABLE (L) 71Wx41Dx28.7H 3W 8Ω (DSH 411-002)	23-5A230-600	1	
06	SPK. WITH CABLE (R) 71Wx41Dx28.7H 3W 8Ω (DSH 411-002)	23-5A230-131	1	

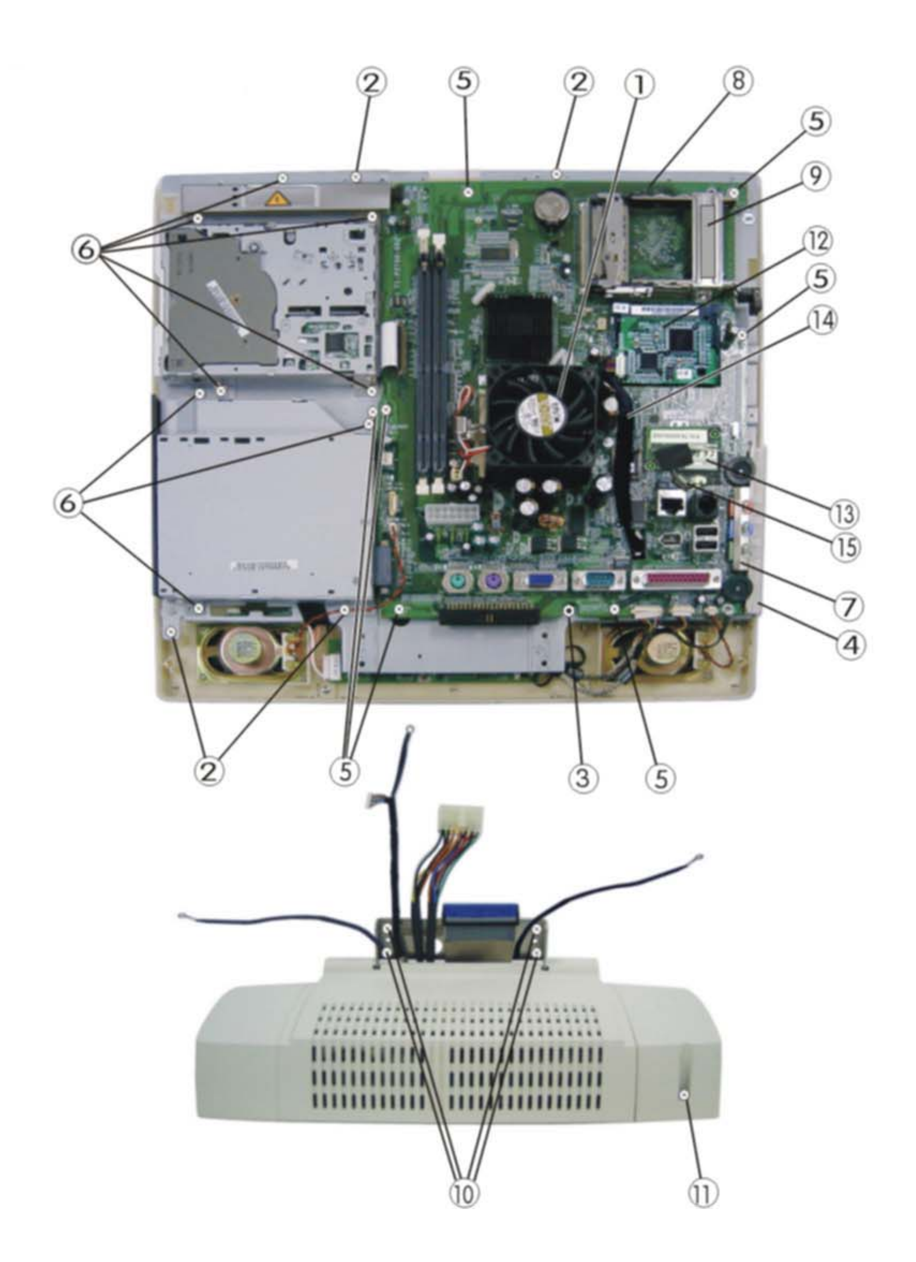


LP200SC Back Assembly (Part I)

Fig. A–5



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	BACK COVER MODULE LP200SC (EPSON)	42-P2C7B-024	1	
02	M3x6Lx0.5P BIND HEAD NI-PL	35-41130-6R0	4	
03	SCREW M3x6L F NI ICT NY	35-41130-6R0	2	
04	I/O BRACKET MODULE LP200S (ADD GASKET)	33-P2T06-010	1	
05	HEX STUD SUM22 NIPL 10mm	34-96002-000	6	
06	M2x3L KI BI ICT	35-B6120-3RD	2	
07	SCREW M2.5x6L B NI ICT	35-41125-6RA	1	
08	SCREW M2.5x12L KI NI ICT NY	35-B1125-120	1	
09	SCREW M2.5x0.45Px4L KI NI ICT NY	35-B1125-4R0	1	



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	HEAT SINK W/FAN (AD0512LB0-G70) LP200C	33-P2214-002	1	
02	M3x6Lx0.5P BIND HEAD NI-PL	35-41130-6R0	4	
03	HEX STUD NI-PL FOR GROUNDING, CU LP200	34-P2203-000	1	
04	AUDIO COVER,PC/ABS LP200C	39-P2005-000	1	
05	M2.5x6L B NI ICT NY	35-41125-6R0	5	
06	M2.5x3L KI NI ICT NY	35-41125-4RA	8	
07	AUDIO GROUDING PLATE, [illegible] LP2000	33-P2209-000	1	
08	MAIN BOARD LP200C (W/O 1394,PE 133)	77-P2T00-005	1	
09	CONDUCTIVE GASKET (L48xW9xH3.5)mm LP200	47-P2202-200	1	
10	M4x6L B NI ICT NY	35-41140-6RA	4	
11	M3x6L B NI ICT	35-41130-6R0	1	
12	MINI PCI CARD FOR 1394	77-P2205-001A	1	
13	MDC MODEM	76-32200-002	1	
14	WIRE CABLE FOR MINI PCI IEEE-1394	43-P2T01-002	1	
15	WIRE CABLE FOR MDC MODEM	43-P2T02-001	1	

LP200SC BACK ASSEMBLY (PART II)

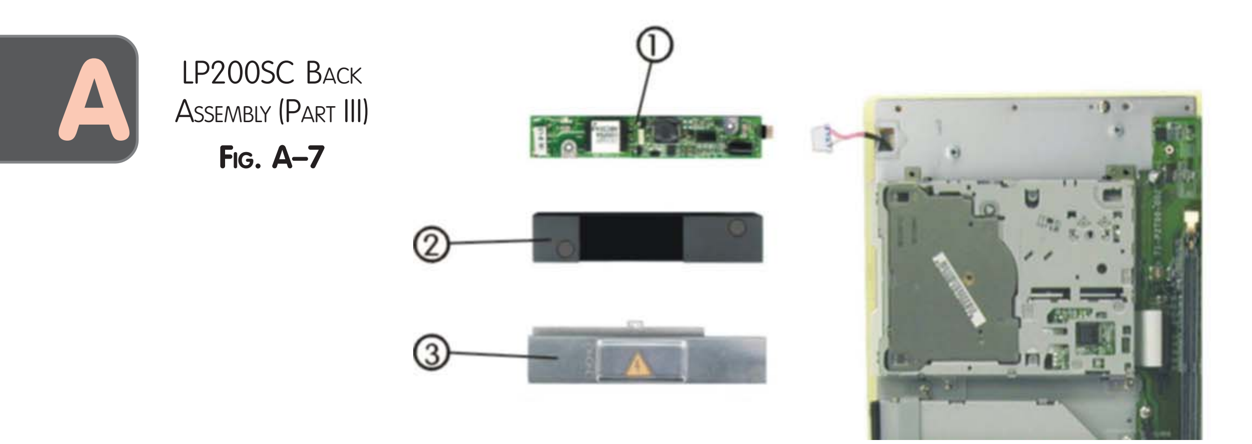
FIG. A–6



A

LP200SC BACK ASSEMBLY (PART III)

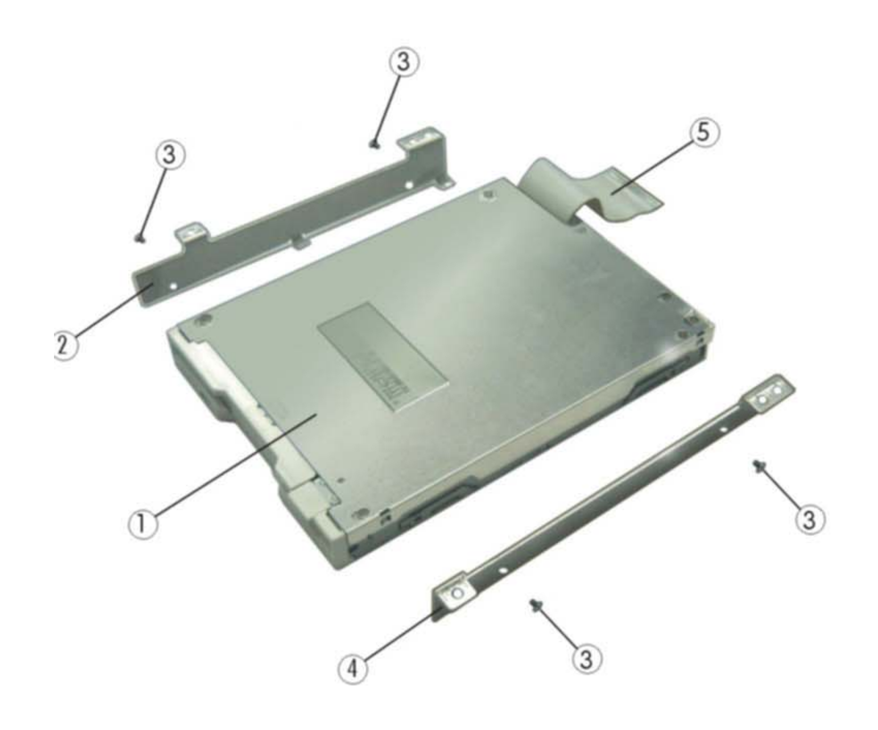
FIG. A–7



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	INVERTER BOARD FOR SHARP V6.0 LP200	77-P2202-026	1	
02	INVERTER MYLAR,PC LP200	40-P2202-002	1	
03	INVERTER SHIELDING PLATE LP200ST	33-P2T02-002	1	

LP200SC FDD Module

Fig. A–8



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	FDD 3.5" 1.44 MB 12.7mm YD-702J-6637J	85-11700-Y05	1	
02	FDD BRACKET (R),SUS LP2000	33-P2204-001	1	
03	SCREW M2.5*3L PBZ ICT NY	35-06125-3R0	4	
04	FDD BRACKET (L),SUS LP2000	33-P2205-000	1	
05	FFC CABLE FOR FDD V1.0 P22	43-P2212-001	1	

A

LP200SC CD DEVICE MODULE

FIG. A–9

CD-ROM

ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	TEAC CD-ROM BEZEL MODULE	39-P207Z-010	1	
02	CD-ROM BRACKET(R),SECC LP200ST	33-P2T0Z-010	1	
03	CD-ROM BRACKET(L),SECC LP200ST	33-P2T01-001	1	
04	SCREW M2.0*3L F NI ICT NY	35-21120-3RA	2	
05	SCREW M2*3.5L F BNI ICT NY (Dd = ϕ 3.2)	35-21120-35B	2	
06	CD-ROM 5 1/4" 24X CD-224E-B20 12.7mm	85-6070X-706	1	

CD-R/W

ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	CD-ROM BEZEL MODULE KME 8X	42-P207W-020	1	
02	CD-ROM BRACKET(R),SECC LP200ST	33-P2T0Z-010	1	
03	CD-ROM BRACKET(L),SECC LP200ST	33-P2T01-001	1	
04	SCREW M2.0*3L F NI ICT NY	35-21120-3RA	2	
05	SCREW M2*3.5L F BNI ICT NY (Dd = ϕ 3.2)	35-21120-35B	2	
06	CD-R/W 5 1/4" 8X UJDA330CL-Z 12.7mm	85-8078X-K00	1	

DVD

ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	CD-ROM BEZEL (WHITE) LP200C	39-P2014-000	1	
02	CD-ROM BRACKET(R),SECC LP200ST	33-P2T0Z-010	1	
03	CD-ROM BRACKET(L),SECC LP200ST	33-P2T01-001	1	
04	SCREW M2.0*3L F NI ICT NY	35-21120-3RA	2	
05	SCREW M2*3.5L F BNI ICT NY (Dd = ϕ 3.2)	35-21120-35B	2	
06	DVD 5 1/4" 8X 12.7mm CD-S200 HITACHI	985-7078X-501-E	1	



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	STAND MODULE LP200	79-P220E-012	1	
02	M3x6L KI NI ICT NY	35-41130-6R0	4	
03	BASE BRACKET,SECC LP200C	33-P2002-002	1	
04	M3x6L F NI ICT NY	35-21130-6R0	6	

LP200SC BASE ASSEMBLY (PART I)

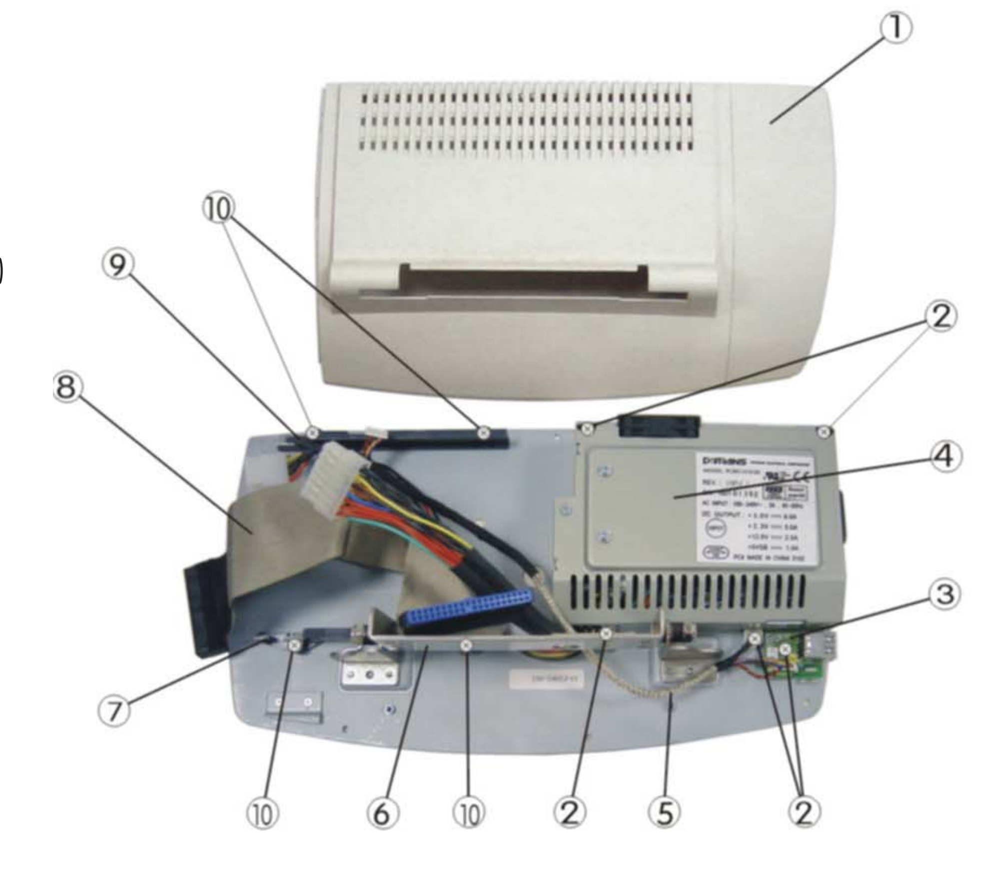
FIG. A–10



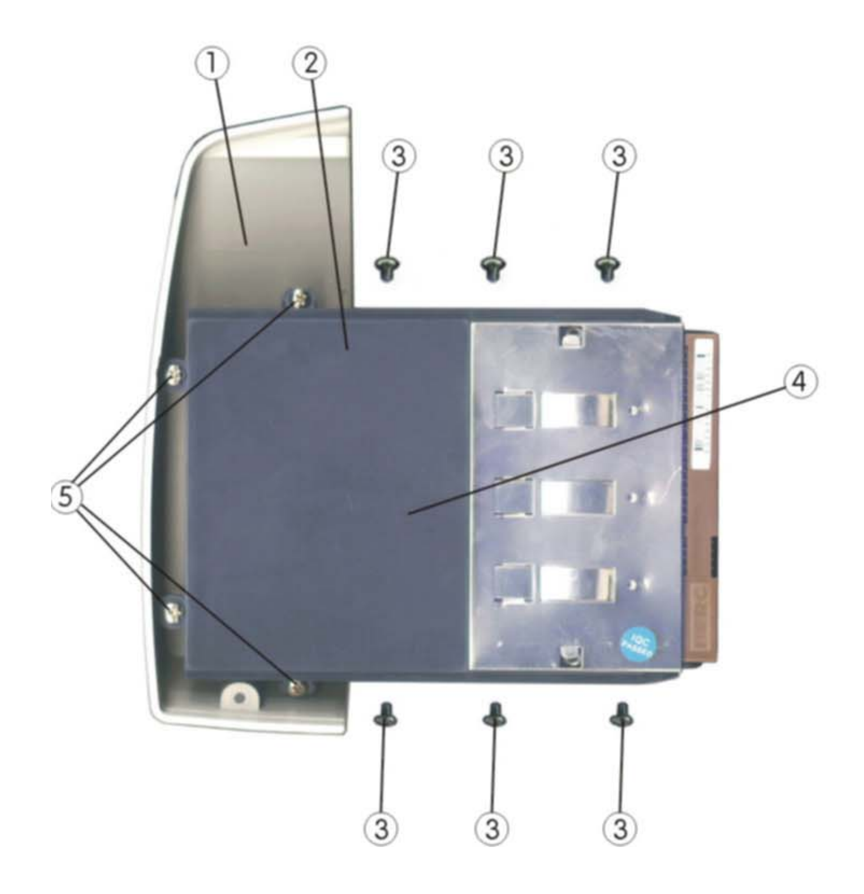


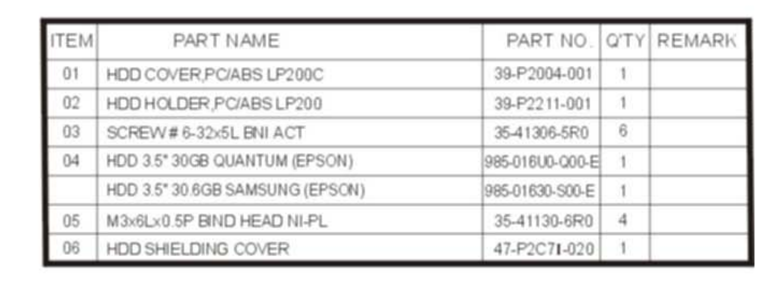
LP200SC Base Assembly (Part II)

Fig. A–11



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	BASE COVER +BRACKET MODULE LP200C	39-P2003-010	1	
02	M3 x 6L B NI ICT	35-41130-6R0	5	
03	EXT. USB BOARD V1.0 LP200	77-P2206-001	1	
04	POWER SUPPLE 91.5W LSE9915D05(200S)	51-P2T03-011	1	
05	EXT, USB CABLE V1.0 LP200ST	43-P2T0C-000	1	
06	HINGE ASS'Y,SUS LP200	79-P220Y-013	1	
07	HDD HOLDER (B),PC/ABS LP200	39-P2213-001	1	
08	FLAT CABLE FOR HDD 40P V2.0 LP200	43-P2211-003	1	
09	HDD HOLDER (A),PC/ABS LP200	39-P2212-001	1	
10	M3 x 6L KI NI ICT NY	35-B1130-6RA	4	





ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	HDD COVER,PC/ABS LP200C	39-P2004-001	1	
02	HDD HOLDER,PC/ABS LP200	39-P2211-001	1	
03	SCREW # 6-32x5L BNI ACT	35-41306-5R0	6	
04	HDD 3.5" 30GB QUANTUM (EPSON)	985-016U0-Q00-E	1	
	HDD 3.5" 30.6GB SAMSUNG (EPSON)	985-01630-S00-E	1	
05	M3x6Lx0.5P BIND HEAD NI-PL	35-41130-6R0	4	
06	HDD SHIELDING COVER	47-P2C7I-020	1	



LP200SC HDD Module

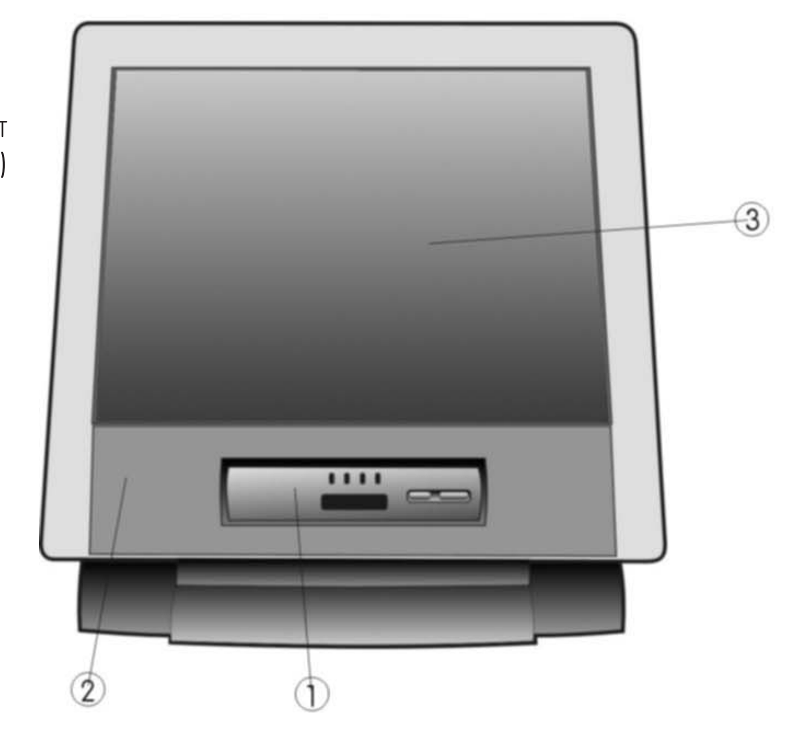
Fig. A–12

LP200ST

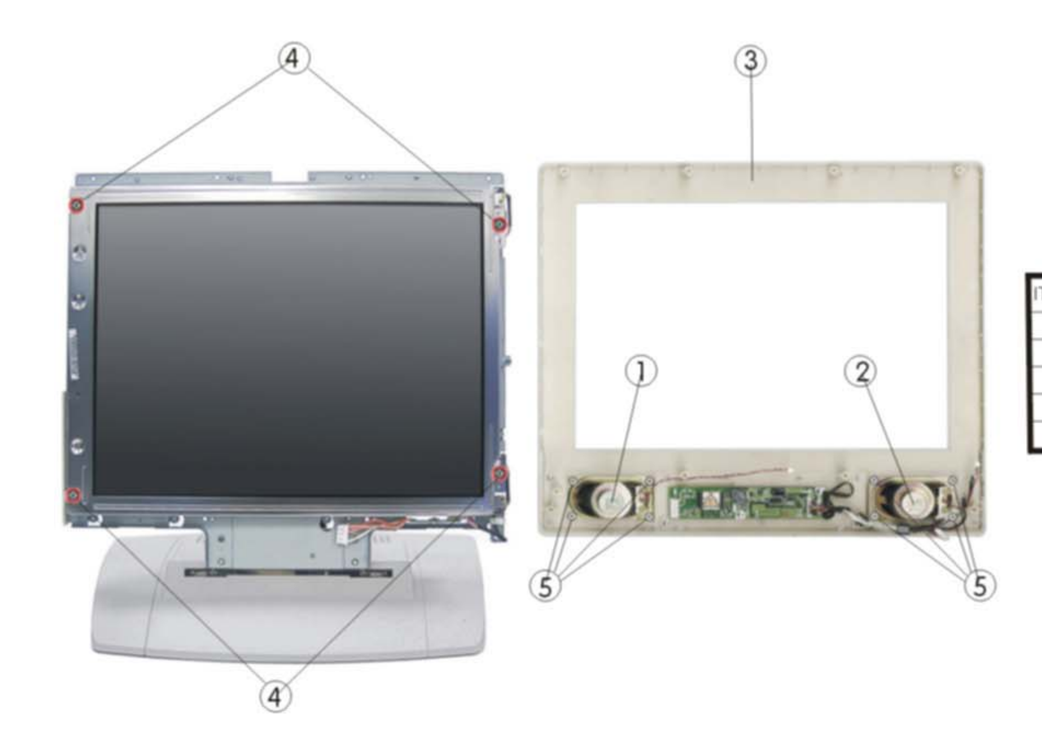


LP200ST FRONT ASSEMBLY (PART I)

FIG. A–13



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	LCD F-CVR MODULE FOR HYU. LP200	79-P220D-0A3	1	
02	SPEAKER COVER ASS'Y LP200	79-P2200-021	1	
03	LCD 15.0" T HTUNDAI HT15x11-200	50-L22H2-H01	1	



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	SPK.WITH CABLE(R) 71Wx41Dx28.7H 3W 8Ω (DSH411-001)	23-5A230-131	1	
02	SPK.WITH CABLE(L) 71Wx41Dx28.7H 3W 8Ω(DSH411-002)	23-5A230-600	1	
03	LCD F-CVR MODULE FOR HYU.	79-P220D-0A3	1	
04	SCREW M3x6Lx0.5P BIND HEAD NI-PL	35-41130-6R0	4	
05	SCREW M3x4L KI NI ICT	35-B1130-4RB	8	

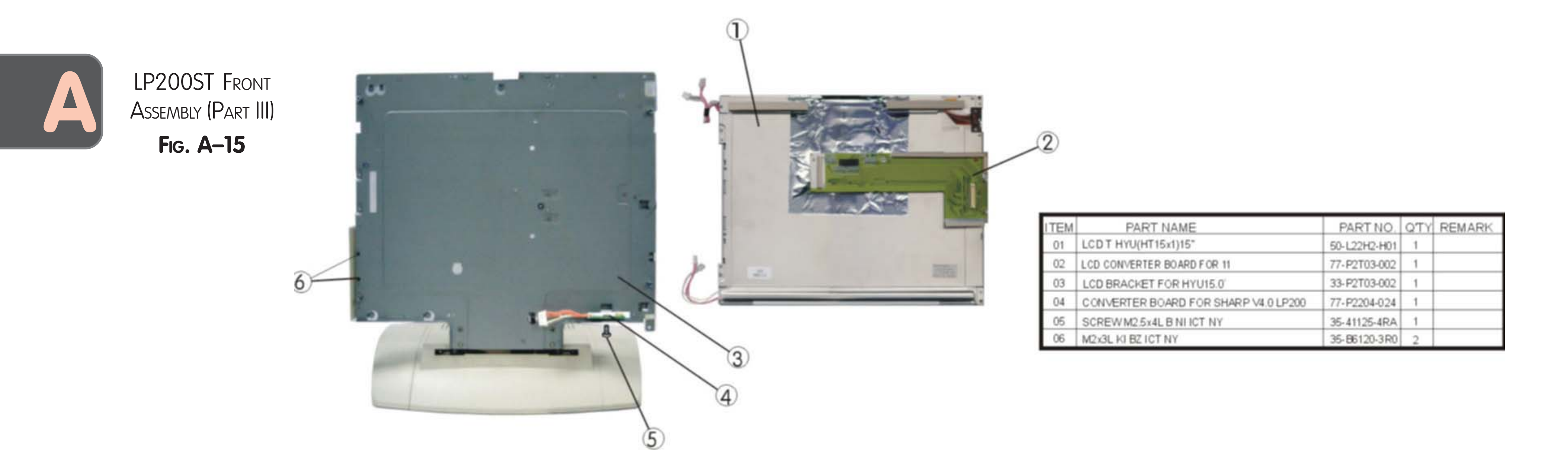
LP200ST FRONT ASSEMBLY (PART II)

FIG. A–14

A

LP200ST FRONT ASSEMBLY (PART III)

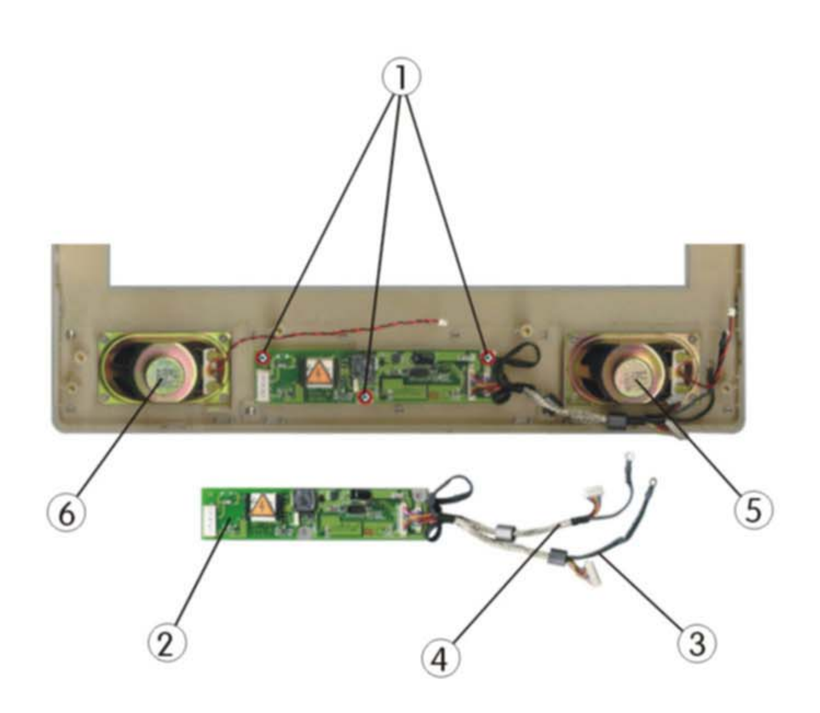
FIG. A–15



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	LCD T HYU(HT15x1)15"	50-L22H2-H01	1	
02	LCD CONVERTER BOARD FOR 11	77-P2T03-002	1	
03	LCD BRACKET FOR HYU15.0'	33-P2T03-002	1	
04	CONVERTER BOARD FOR SHARP V4.0 LP200	77-P2204-024	1	
05	SCREW M2.5x4L B NI ICT NY	35-41125-4RA	1	
06	M2x3L KI BZ ICT NY	35-B6120-3R0	2	

LP200ST FRONT ASSEMBLY (PART IV)

FIG. A–16

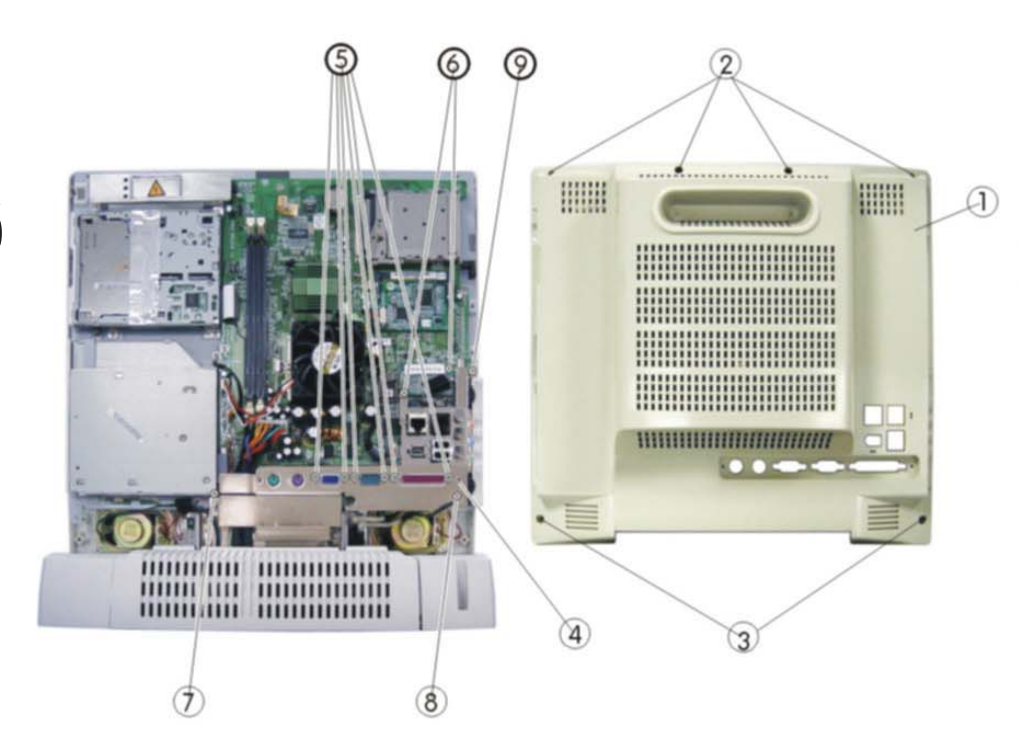


ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	SCREW M2.5x5L KI NI ICT	35-41125-5R0	3	
02	INVERTER+LED BOARD FOR HYU.	77-P2T14-002	1	
03	WIRE CABLE FOR LED SIGNAL 12P V2.0 LP200ST	43-P2T0F-021	1	
04	WIRE CABLE FOR LED POWER 8P V2.0 LP200ST	43-P2T0F-012	1	
05	SPK WITH CABLE (L) 71Wx41Dx28.7H 3W8Ω (DSH411-002)	23-5A230-600	1	
06	SPK WITH CABLE (R) 71Wx41Dx28.7H 3W8Ω (DSH411-001)	23-5A230-131	1	

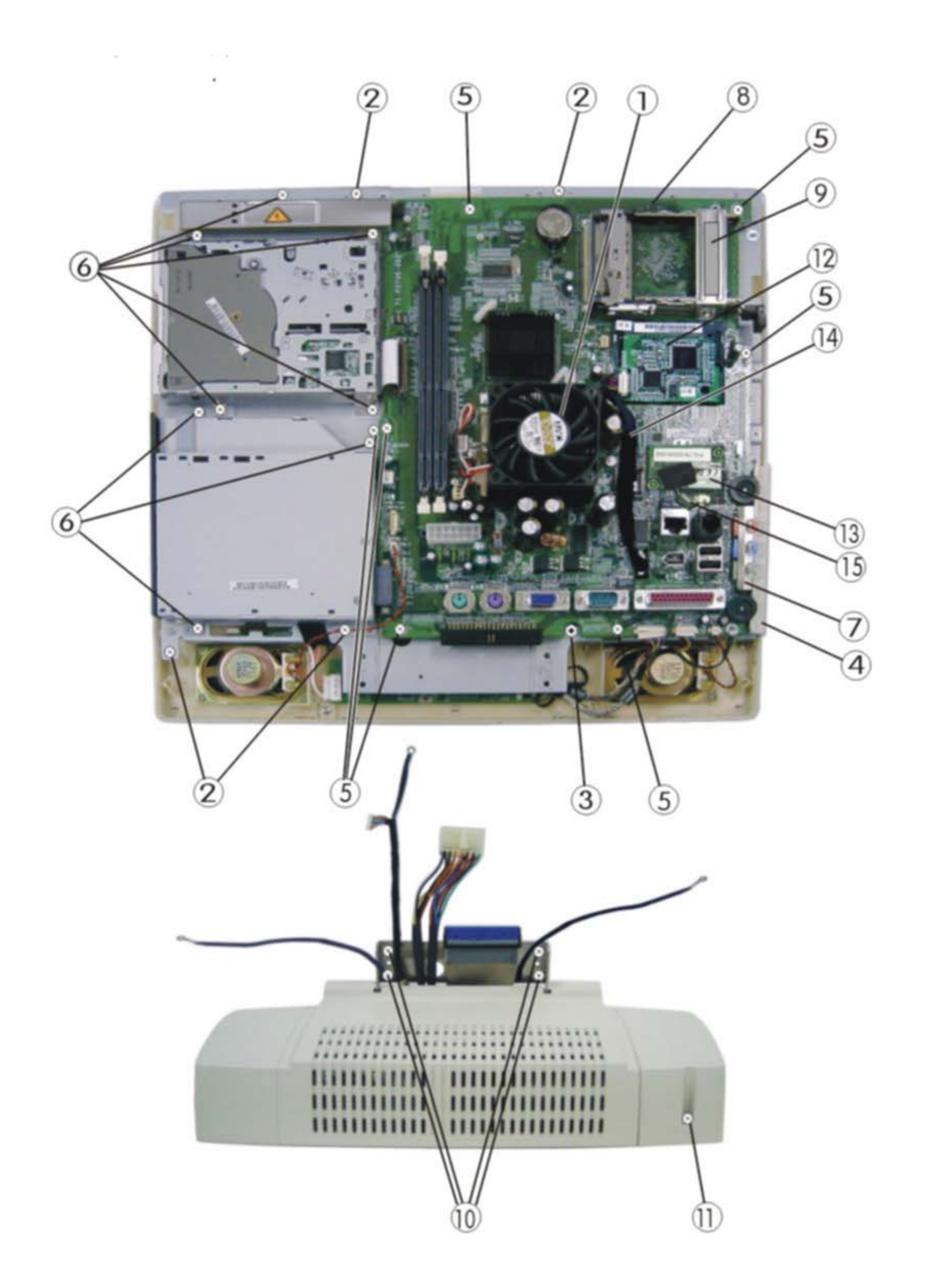


LP200ST Back Assembly (Part I)

Fig. A–17



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	BACK COVER MODULE LP200SC LP200ST/SE	42-P2T7B-016	1	
02	M3x6Lx0.5P BIND HEAD NI-PL	35-41130-6R0	4	
03	SCREW M3x6L F NI ICT NY	35-41130-6R0	2	
04	I/O BRACKET MODULE LP200S (ADD GASKET)	33-P2T06-010	1	
05	HEX STUD SUM22 NIPL 10mm	34-96002-000	6	
06	M2x3L KI BI ICT	35-B6120-3R0	2	
07	SCREW M2.5x6L B NI ICT	35-41125-6RA	1	
08	SCREW M2.5x12L KI NI ICT NY	35-B1125-120	1	
09	SCREW M2.5x0.45Px4L KI NI ICT NY	35-B1125-4R0	1	



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	HEAT SINK W/FAN (AD0512LB0-G70) LP200C	33-P2214-002	1	
02	M3x6Lx0.5P BIND HEAD NI-PL	35-41130-6R0	4	
03	HEX STUD NI-PL FOR GROUNDING, CU LP200	34-P2203-000	1	
04	AUDIO COVER,PC/ABS LP200C	39-P2005-000	1	
05	M2.5x6L B NI ICT NY	35-41125-6R0	5	
06	M2.5x3L KI NI ICT NY	35-41125-4RA	8	
07	AUDIO GROUDING PLATE, 磷青銅 LP2000	33-P2209-000	1	
08	MAIN BOARD LP200C (W/O 1394,PE 133)	77-P2T00-005	1	
09	CONDUCTIVE GASKET (L48xW9xH3.5)mm LP200	47-P2202-200	1	
10	M4x6L B NI ICT NY	35-41140-6RA	4	
11	M3x6L B NI ICT	35-41130-6R0	1	
12	MINI PCI CARD FOR 1394	77-P2205-001A	1	
13	MDC MODEM	76-32200-002	1	
14	WIRE CABLE FOR MINI PCI IEEE-1394	43-P2T01-002	1	
15	WIRE CABLE FOR MDC MODEM	43-P2T02-001	1	

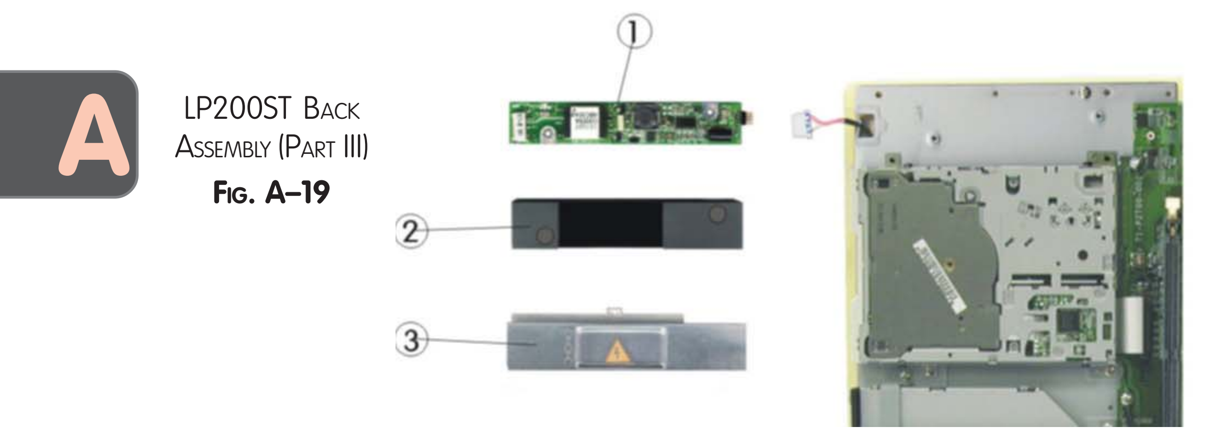
LP200ST Back Assembly (Part II)

Fig. A–18

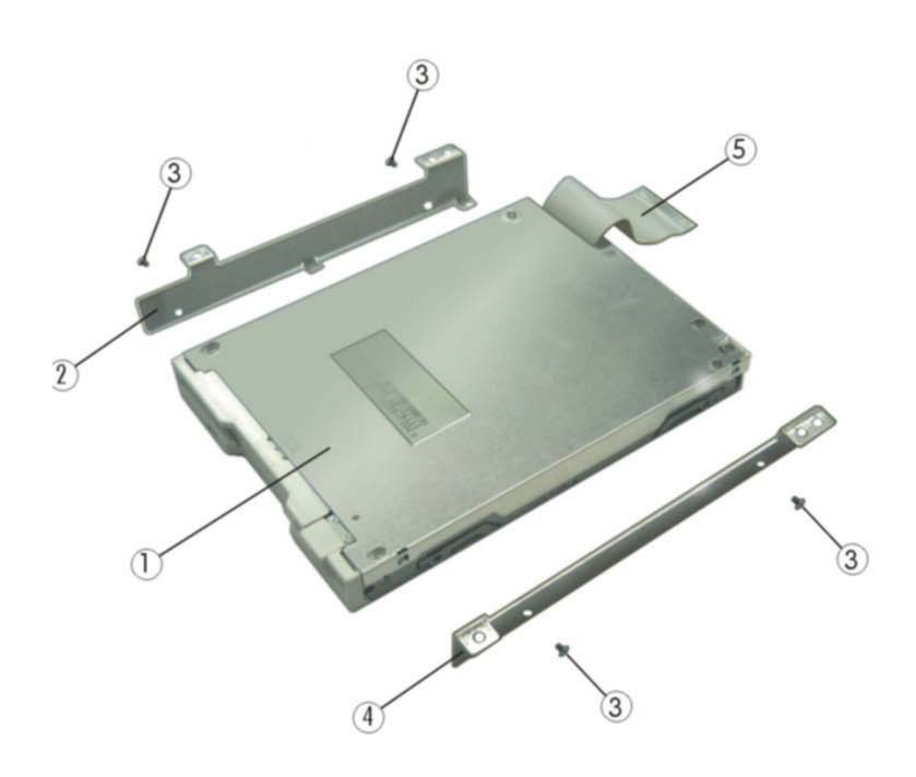
A

LP200ST Back Assembly (Part III)

Fig. A–19



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	INVERTER BOARD FOR SHARP V6.0 LP200	77-P2202-026	1	
02	INVERTER MYLAR,PC LP200	40-P2202-002	1	
03	INVERTER SHIELDING PLATE LP200ST	33-P2T02-002	1	



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	FDD 3.5" 1.44 MB 12.7mm YD-702J-6637J	85-11700-Y05	1	
02	FDD BRACKET (R),SUS LP2000	33-P2204-001	1	
03	SCREW M2.5*3L PBZ IC T NY	35-06125-3R0	4	
04	FDD BRACKET (L),SUS LP2000	33-P2205-000	1	
05	FFC CABLE FOR FDD V1.0 P22	43-P2212-001	1	

LP200ST FDD
MODULE

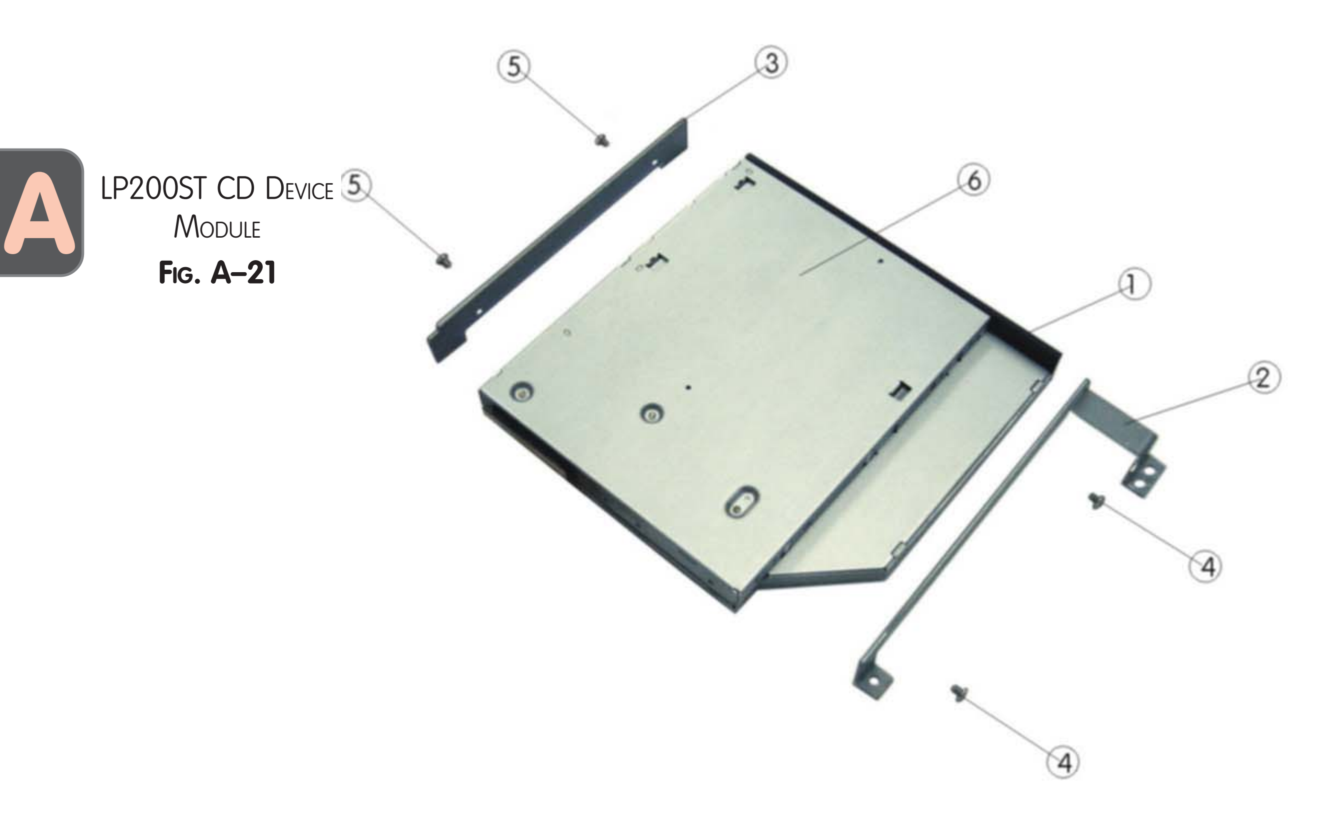
FIG. A–20



A

LP200ST CD Device Module

Fig. A–21



CD-ROM

ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	CD-ROM BEZEL MODULE	79-P2202-010	1	
02	CD-ROM BRACKET(R),SECC LP200ST	33-P2T0Z-010	1	
03	CD-ROM BRACKET(L),SECC LP200ST	33-P2T01-001	1	
04	SCREW M2.0*3L F NI ICT NY	35-21120-3RA	2	
05	SCREW M2*3.5L F BNI ICT NY (Dd = ϕ 3.2)	35-21120-35B	2	
06	CD-ROM+W/O BEZEL 5 1/4" 24X CR-176-D	85-6070X-P01	1	

CD-R/W

ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	CD-ROM BEZEL MODULE KME 8X	42-P207W-020	1	
02	CD-ROM BRACKET(R),SECC LP200ST	33-P2T0Z-010	1	
03	CD-ROM BRACKET(L),SECC LP200ST	33-P2T01-001	1	
04	SCREW M2.0*3L F NI ICT NY	35-21120-3RA	2	
05	SCREW M2*3.5L F BNI ICT NY (Dd = ϕ 3.2)	35-21120-35B	2	
06	CD-R/W 5 1/4" 8X UJDA330CL-Z 12.7mm	85-8078X-K00	1	

DVD

ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	DVD BEZEL	39-P227V-023	1	
02	CD-ROM BRACKET(R),SECC LP200ST	33-P2T0Z-010	1	
03	CD-ROM BRACKET(L),SECC LP200ST	33-P2T01-001	1	
04	SCREW M2.0*3L F NI ICT NY	35-21120-3RA	2	
05	SCREW M2*3.5L F BNI ICT NY (Dd = ϕ 3.2)	35-21120-35B	2	
06	DVD 5 1/4" 8X 12.7mm CD-S200 HITACHI	85-7078X-T02	1	

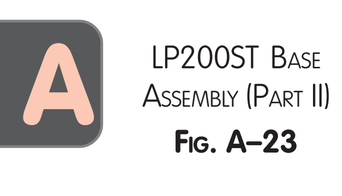


ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	STAND MODULE LP200	79-P220E-013	1	
02	M3x6L KI NI ICT NY	35-B1130-6RA	4	
03	BASE BRACKET,SECC LP200T	33-P2202-002	1	
04	M3x6L F NI ICT NY	35-21130-6RA	6	

LP200ST BASE ASSEMBLY (PART I)

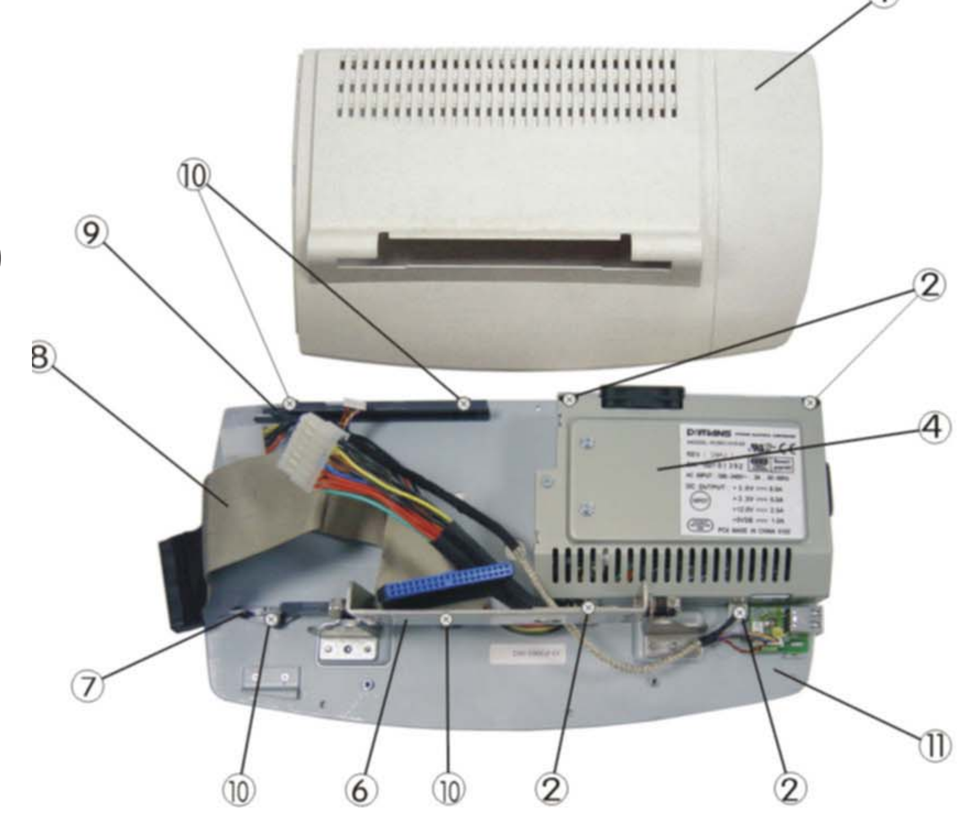
FIG. A–22



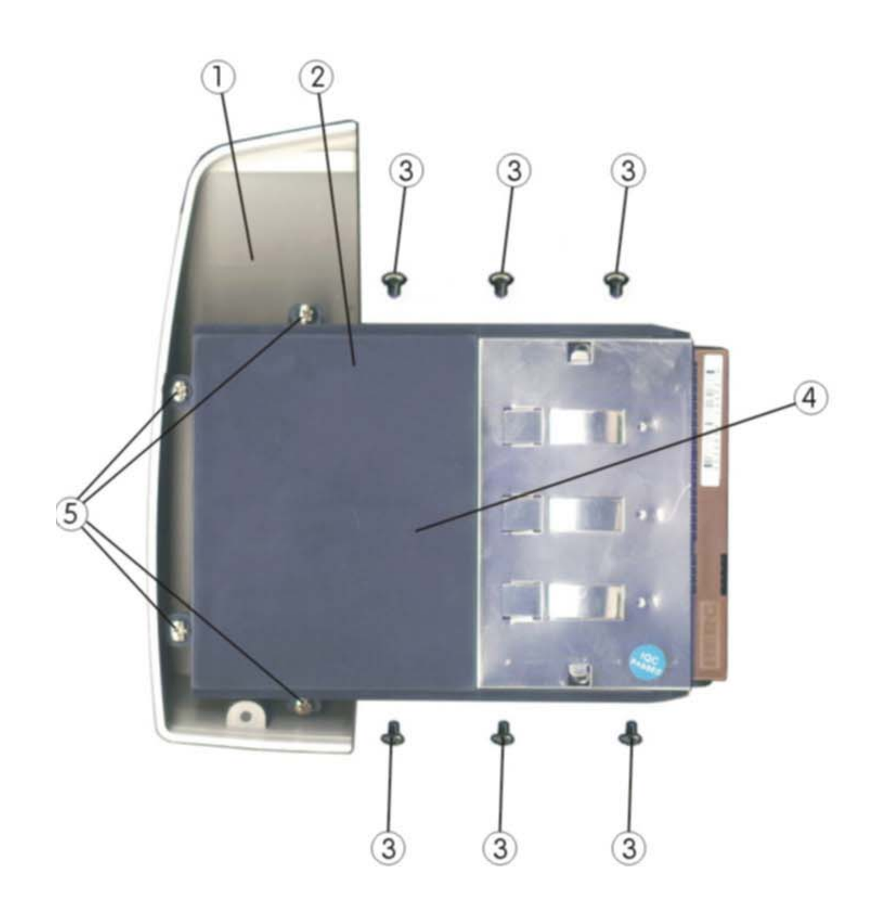


LP200ST BASE ASSEMBLY (PART II)

FIG. A–23



ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	BASE COVER (ST)	39-P2203-001	1	
02	M3 x 6L B NI ICT	35-41130-6R0	4	
04	POWER SUPPLE 91.5W LSE9915D05(200S)	51-P2T03-011	1	
06	HINGE ASS'Y,SUS LP200	79-P220Y-013	1	
07	HDD HOLDER (B),PC/ABS LP200	39-P2213-001	1	
08	FLAT CABLE FOR HDD 40P V2.0 LP200	43-P2211-003	1	
09	HDD HOLDER (A),PC/ABS LP200	39-P2212-001	1	
10	M3 x 6L KI NI ICT NY	35-B1130-6RA	4	
11	BASE BRACKET (ST)	33-P2202-002	1	



LP200ST HDD MODULE

FIG. A–24

A

ITEM	PART NAME	PART NO.	Q'TY	REMARK
01	HDD COVER,PC/ABS LP200ST	39-P2204-001	1	
02	HDD HOLDER,PC/ABS LP200	39-P2211-001	1	
03	SCREW # 6-32x5L BNI ACT	35-41306-5R0	6	
04	HDD 3.5" 30GB QUANTUM (EPSON)	985-016U0-Q00-E	1	
	HDD 3.5" 30.6GB SAMSUNG (EPSON)	985-01630-S00-E	1	
05	M3x6Lx0.5P BIND HEAD NI-PL	35-41130-6R0	4	

Notes:

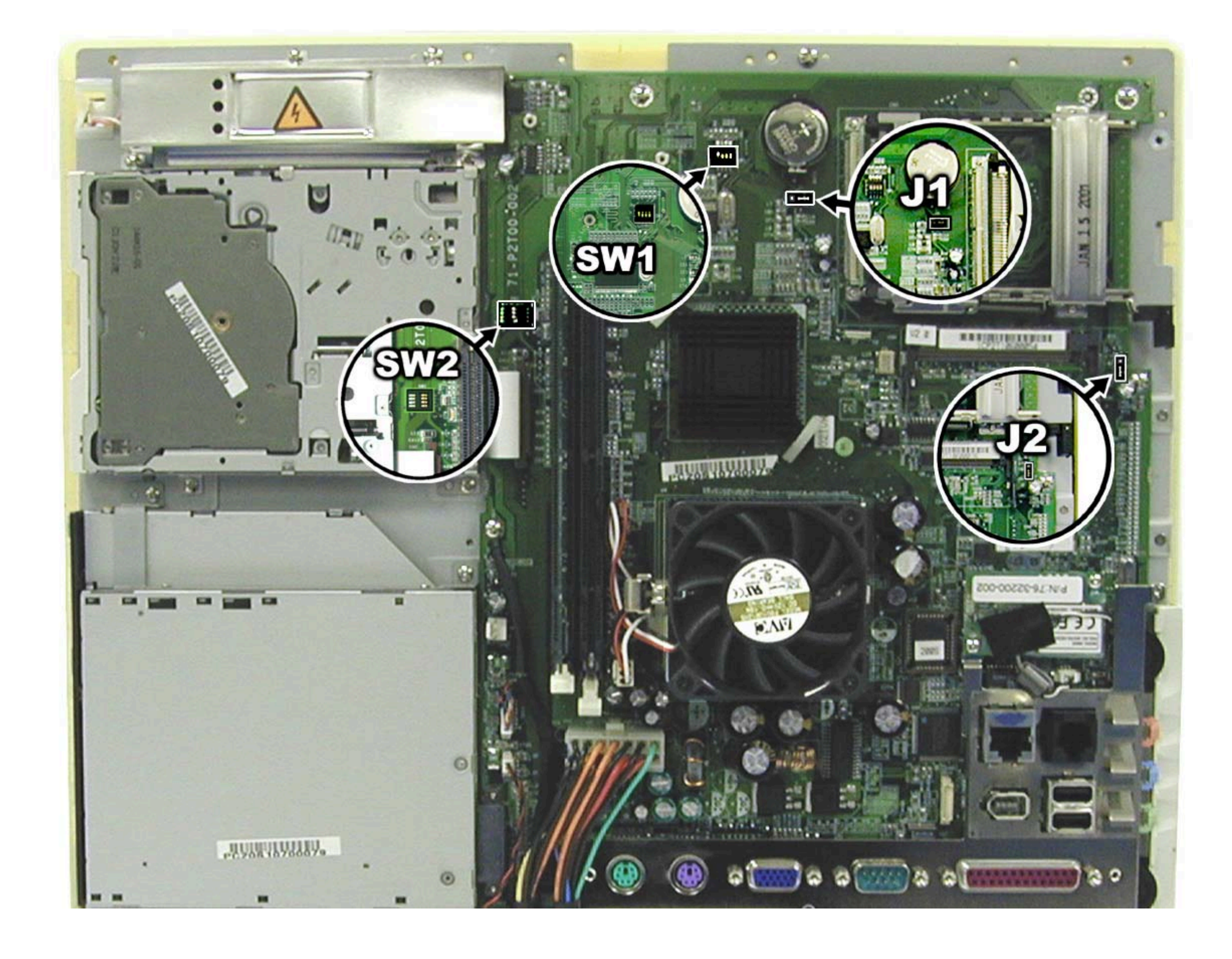


B Switches and Jumpers

This appendix is about the system's switches and jumpers.

LOCATIONS

The following figure shows the locations of the DIP Switches and Jumpers the system uses. You can access them after you remove the Back Cover (page 2-4). Be sure to **turn OFF the system** before you perform any part removal procedure.



LOCATIONS OF THE SYSTEM'S SWITCHES AND JUMPERS
FIG. B-1

Settings

CPU Frequency Switch Settings (Switch SW1)

CPU		SDRAM	SW1-1	SW1-2	SW1-3	SW1-4
Type	FSB Speed (MHz)	MHz				
Celeron 533A	66	100	OFF	OFF	OFF	OFF
Celeron 600	66	100	OFF	OFF	OFF	OFF
Celeron 633	66	100	OFF	OFF	OFF	OFF
Celeron 667	66	100	OFF	OFF	OFF	OFF
Celeron 700	66	100	OFF	OFF	OFF	OFF
Celeron 733	66	100	OFF	OFF	OFF	OFF
Celeron 766	66	100	OFF	OFF	OFF	OFF
Celeron 800	100	100	ON	OFF	OFF	OFF
Celeron 850	100	100	ON	OFF	OFF	OFF
Celeron 900	100	100	ON	OFF	OFF	OFF
Celeron 950	100	100	ON	OFF	OFF	OFF
PIII 600	100	100	ON	OFF	OFF	OFF
PIII 650	100	100	ON	OFF	OFF	OFF
PIII 700	100	100	ON	OFF	OFF	OFF
PIII 750	100	100	ON	OFF	OFF	OFF
PIII 800	100	100	ON	OFF	OFF	OFF
PIII 850	100	100	ON	OFF	OFF	OFF
PIII 1100	100	100	ON	OFF	OFF	OFF
PIII 600EB	133	133	ON	ON	ON	OFF
PIII 733	133	133	ON	ON	ON	OFF
PIII 800EB	133	133	ON	ON	ON	OFF
PIII 866	133	133	ON	ON	ON	OFF
PIII 933	133	133	ON	ON	ON	OFF
PIII 1000	133	133	ON	ON	ON	OFF

PANEL TYPE SWTCH AND JUMPER SETTINGS (SWTICH SW2 & JUMPER J2)

Jumper J2 sets the LCD VCC.
The LCD VCC is set to 5V when pins 1 & 2 of Jumper J2 are ON.
The LCD VCC is set to 3V when pins 2 & 3 of Jumper J2 are ON.

LCD Panel		SW2-1	SW2-2	SW2-3	SW2-4	J2
Model No.	Brand					
HT15TX11-200-TI	Hyundai	OFF	OFF	ON	OFF	5V (pins 1-2 ON)
LM151X4-ATH	LG	OFF	OFF	OFF	ON	3V (pins 2-3 ON)

B

CMOS CLEAR JUMPER SETTINGS (JUMPER J1)

Type	Pins 1 &2 of J1	Pins 2 & 3 of J1
Normal (default)	ON	
CMOS Clear		ON





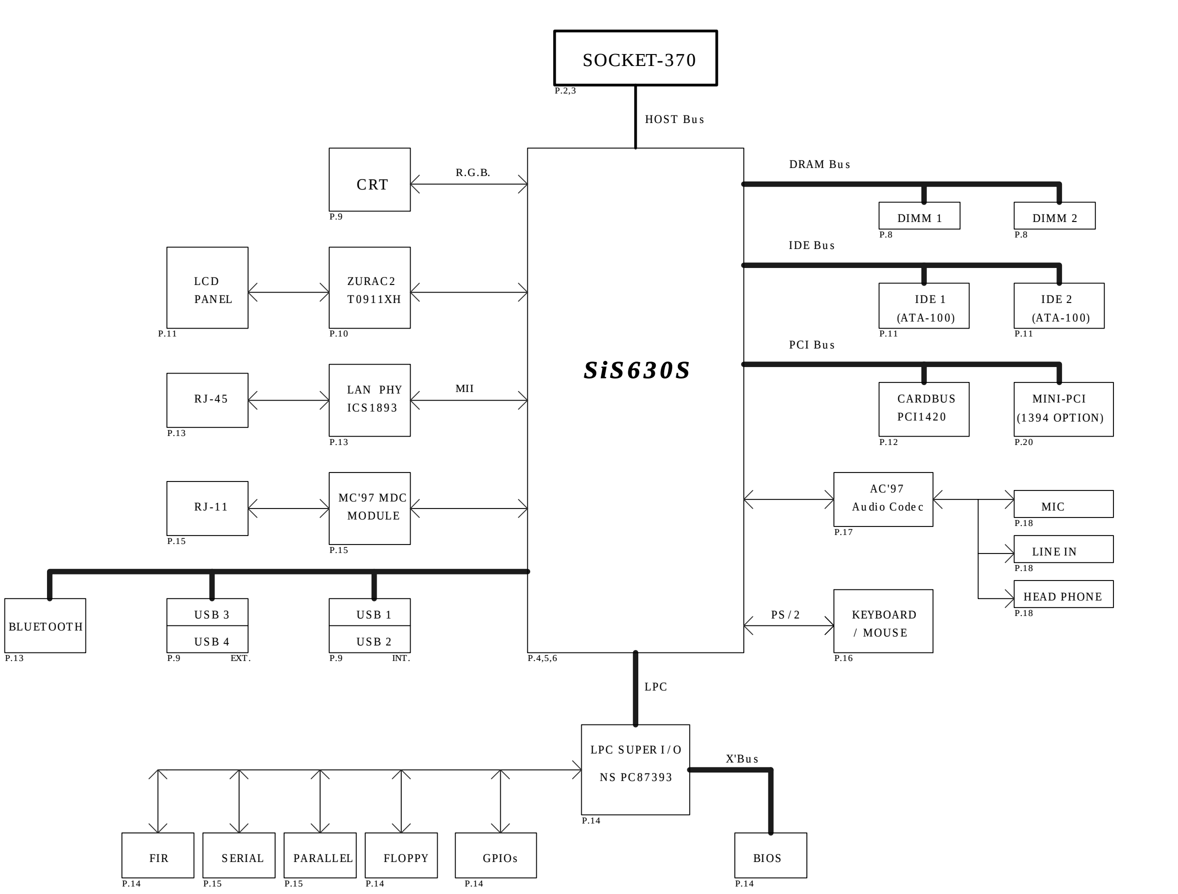
This appendix has circuit diagrams of the system's PCBs.

Printed Circuit Board	**Part No. of the Latest Version**
System Board	71-P2T00-005
Inverter Board	71-P2T0R-002
LED + Inverter Board	71-P2T14-002
Converter Board	71-P2T03-003 (for Hyundai panels)
	71-P2T04-002 (for LG panels)
IEEE1394 Extension Card	71-P2205-001A (This is an optional feature)
External USB Board	71-P2206-001 (Only the LP200SC has this feature.)

We have included the latest versions at the press time. If any board you want to service is newer than listed, please consult the nearest service center.

SYSTEM BOARD

System Block Diagram



3*CPUs
13*SDRAMs
6*PCIs
1*48MHz
24/48MHz
2*REF

CLOCK
GENERATOR.
P.7

POWER

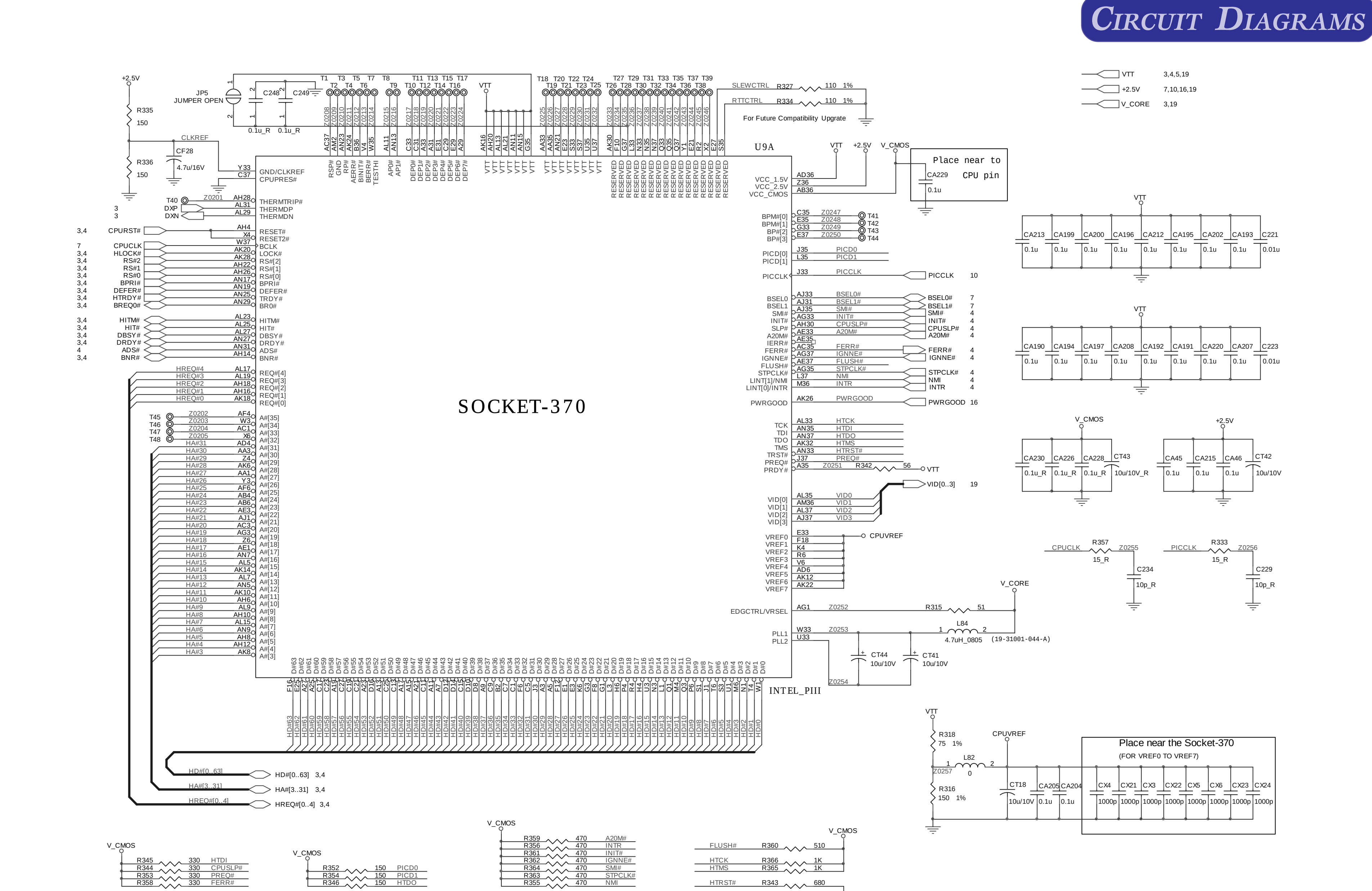
RTCVDD
RTC
P.16

V_CORE
VTT
+2.5V
+1.8V
PWM
P.19

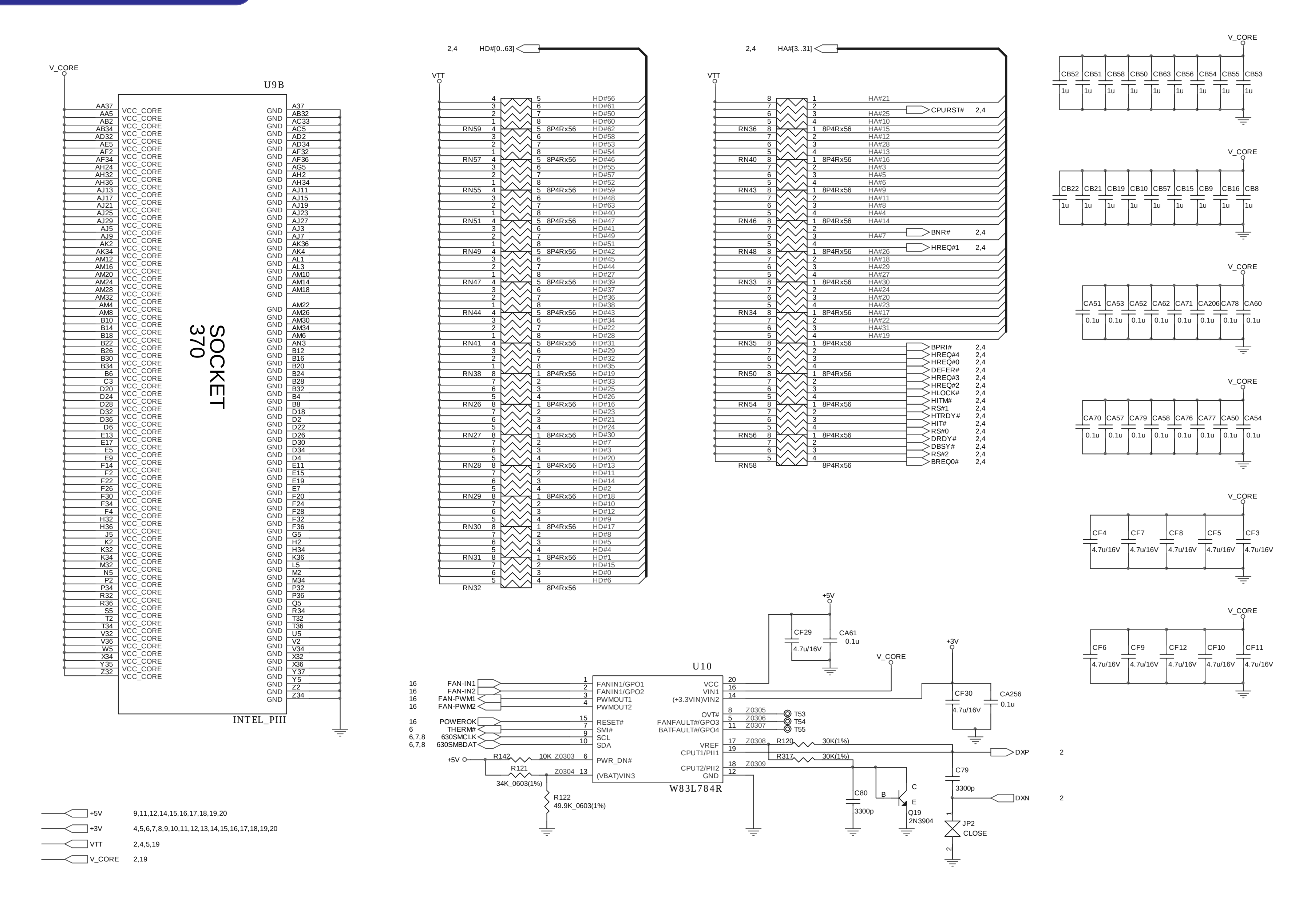
SB3V
SB1.8V
630SVTT
REGULATOR
P.5,19

+12V
+5V
+3V
SB5V
EXTERNAL
POWER
P.19

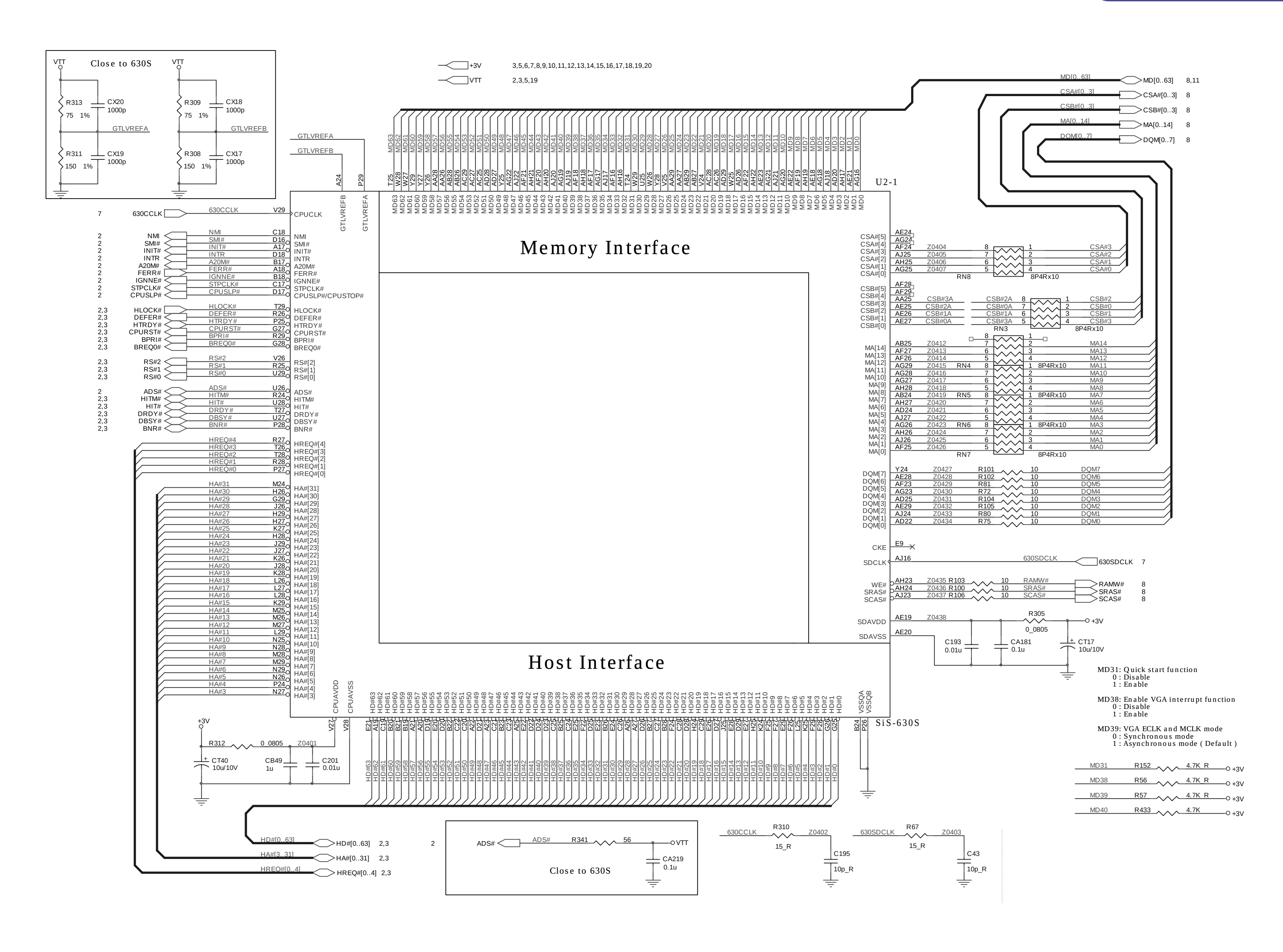
C


SOCKET-370
U9A
INTEL_PIII
Place near to CPU pin
For Future Compatibility Upgrate
Place near the Socket-370
(FOR VREF0 TO VREF7)
JP5
JUMPER OPEN
SLEWCTRL
RTTCTRL
R327 110 1%
R334 110 1%
VTT 3,4,5,19
+2.5V 7,10,16,19
V_CORE 3,19
GND/CLKREF
CPUPRES#
THERMTRIP#
THERMDP
THERMDN
RESET#
RESET2#
BCLK
LOCK#
HD#[0..63] 3,4
HA#[3..31] 3,4
HREQ#[0..4] 3,4
PICCLK 10
PWRGOOD 16
VID[0..3] 19
CPUVREF
EDGCTRL/VRSEL
R315 51
L84 4.7uH_0805 (19-31001-044-A)
CT44 10u/10V
CT41 10u/10V
R318 75 1%
R316 150 1%
L82
CT18 10u/10V
R335 150
R336 150
CF28 4.7u/16V
CLKREF
C248 C249 0.1u_R

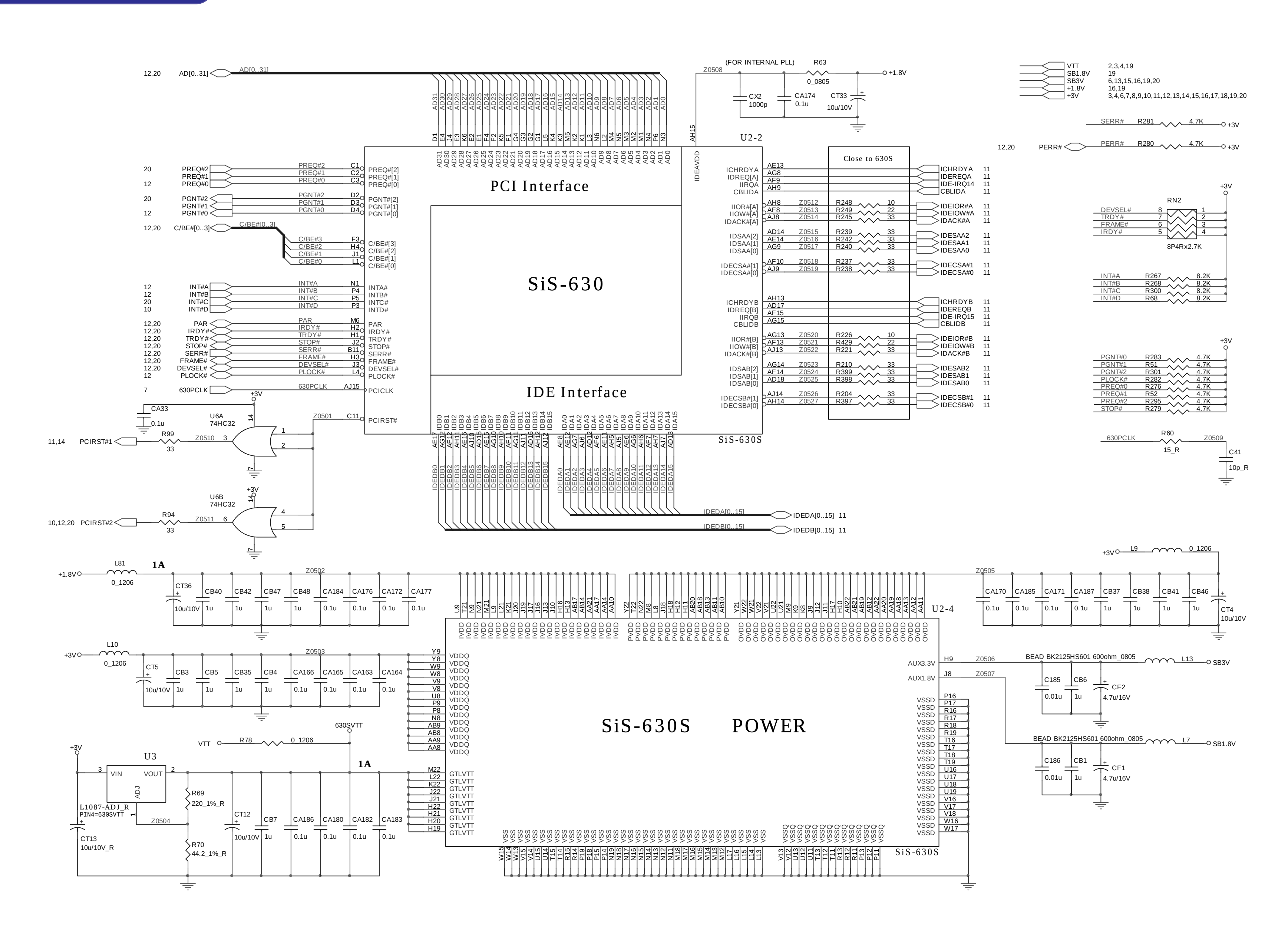
C

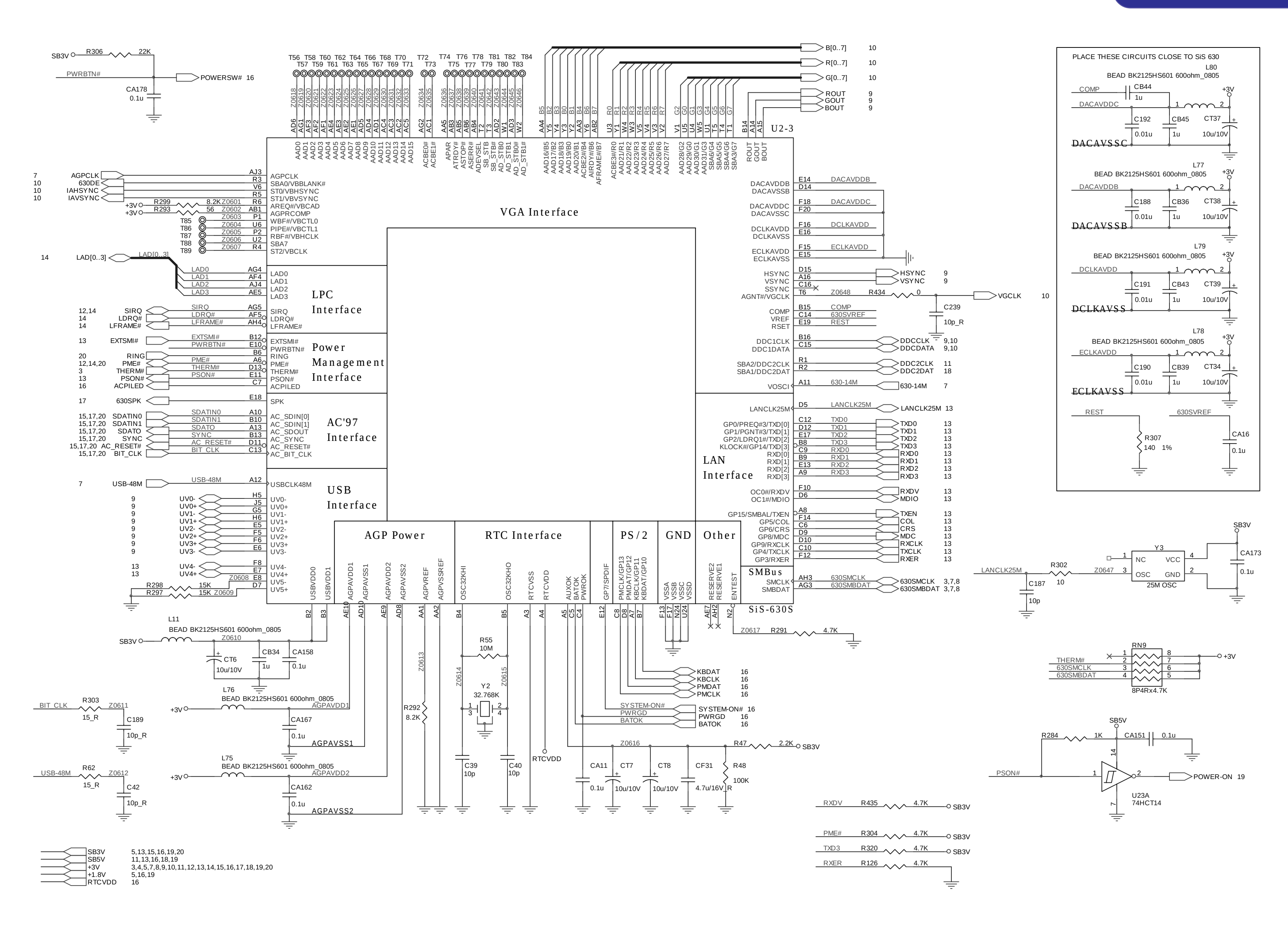


System Board (71-P2T00-005) - Sheet 3 of 20


Close to 630S
Memory Interface
Host Interface
U2-1
SiS-630S
Close to 630S
MD31: Quick start function
0 : Disable
1 : Enable
MD38: Enable VGA interrupt function
0 : Disable
1 : Enable
MD39: VGA ECLK and MCLK mode
0 : Synchronous mode
1 : Asynchronous mode (Default)

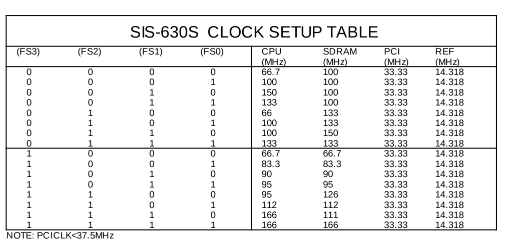
C


PCI Interface
SiS-630
IDE Interface
SiS-630S
SiS-630S POWER
U2-2
U2-4
Close to 630S
(FOR INTERNAL PLL)
U3
L1087-ADJ_R
U6A
74HC32
U6B
74HC32
RN2
8P4Rx2.7K



VGA Interface
LPC Interface
Power Management Interface
AC'97
USB Interface
AGP Power
RTC Interface
PS/2
GND
Other
LAN Interface
SMBus
SiS-630S
U2-3
PLACE THESE CIRCUITS CLOSE TO SiS 630
DACAVSSC
DACAVSSB
DCLKAVSS
ECLKAVSS
25M OSC
74HCT14
8P4Rx4.7K
POWERSW#
POWER-ON
VGCLK
SB3V
SB5V
+3V
+1.8V
RTCVDD

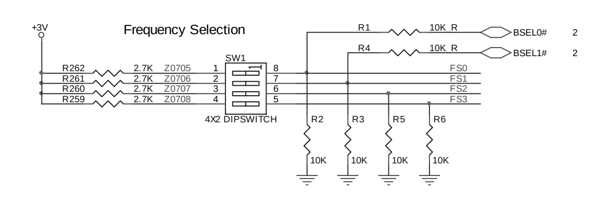
C

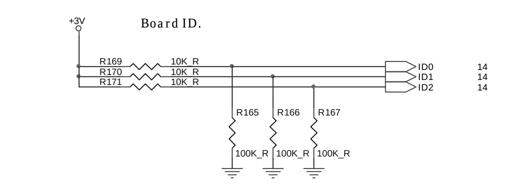


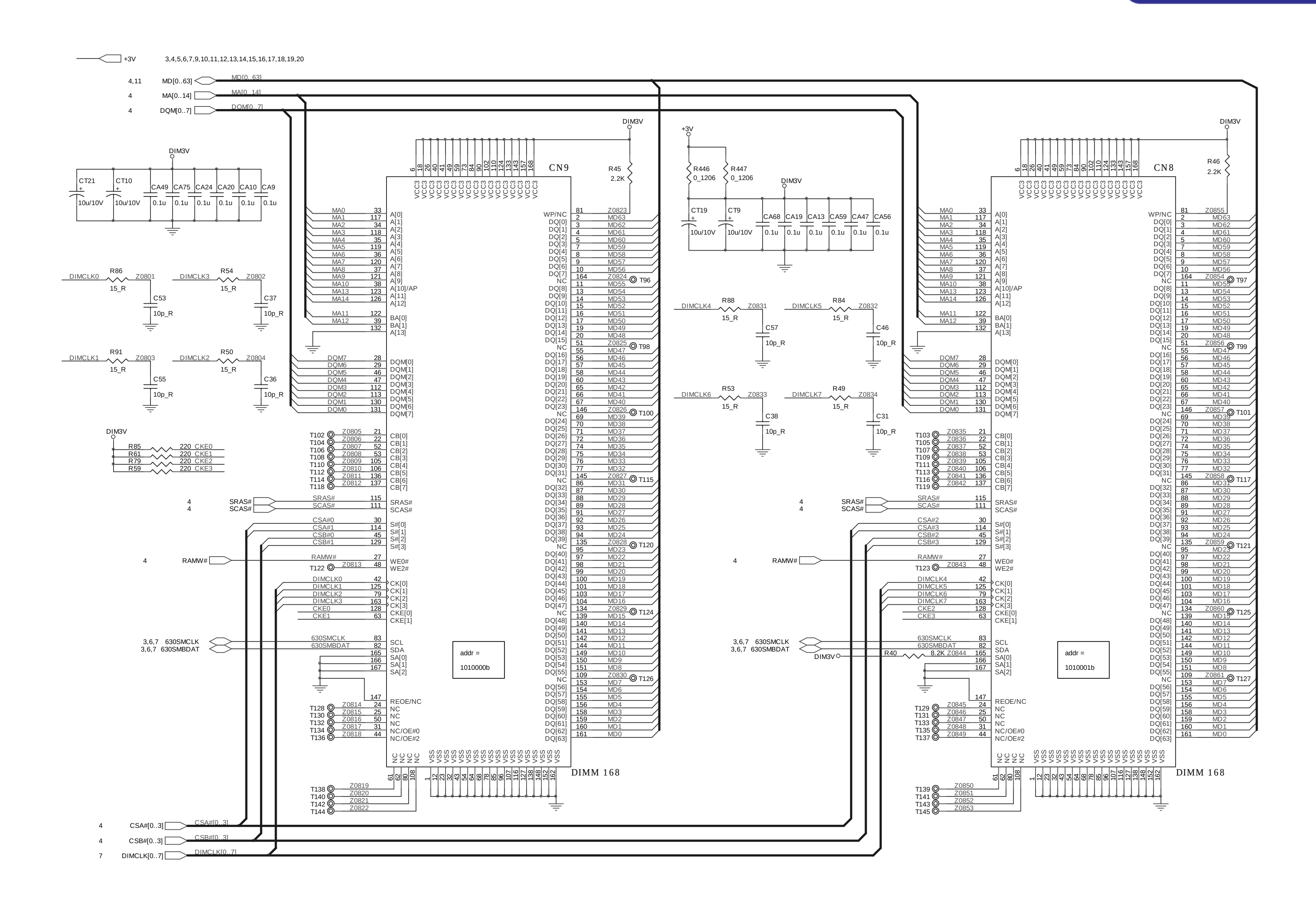
SIS-630S CLOCK SETUP TABLE

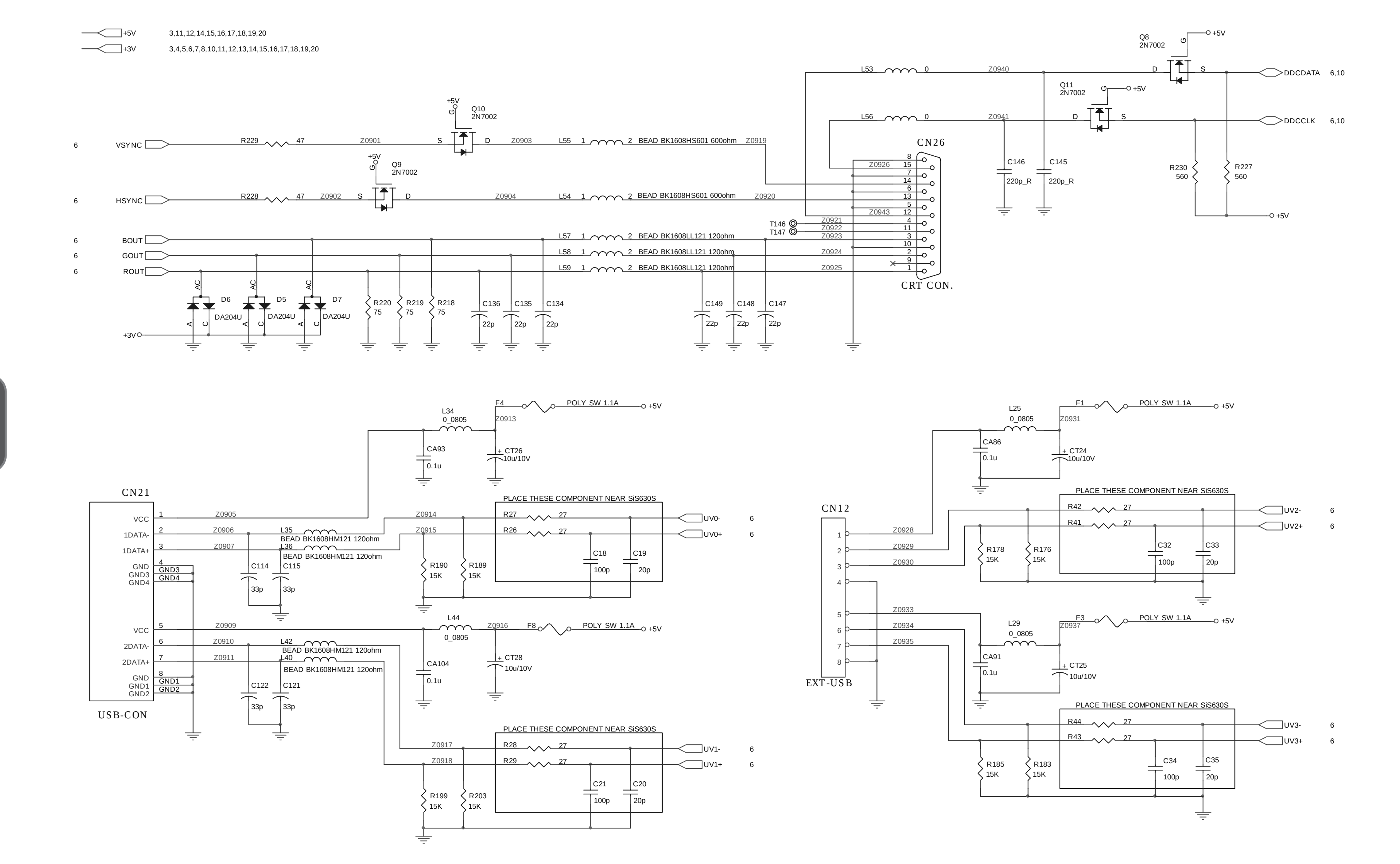
(FS3)	(FS2)	(FS1)	(FS0)	CPU (MHz)	SDRAM (MHz)	PCI (MHz)	REF (MHz)
0	0	0	0	66.7	100	33.33	14.318
0	0	0	1	100	100	33.33	14.318
0	0	1	0	150	100	33.33	14.318
0	0	1	1	133	100	33.33	14.318
0	1	0	0	66	133	33.33	14.318
0	1	0	1	100	133	33.33	14.318
0	1	1	0	100	150	33.33	14.318
0	1	1	1	133	133	33.33	14.318
1	0	0	0	66.7	66.7	33.33	14.318
1	0	0	1	83.3	83.3	33.33	14.318
1	0	1	0	90	90	33.33	14.318
1	0	1	1	95	95	33.33	14.318
1	1	0	0	95	126	33.33	14.318
1	1	0	1	112	112	33.33	14.318
1	1	1	0	166	111	33.33	14.318
1	1	1	1	166	166	33.33	14.318

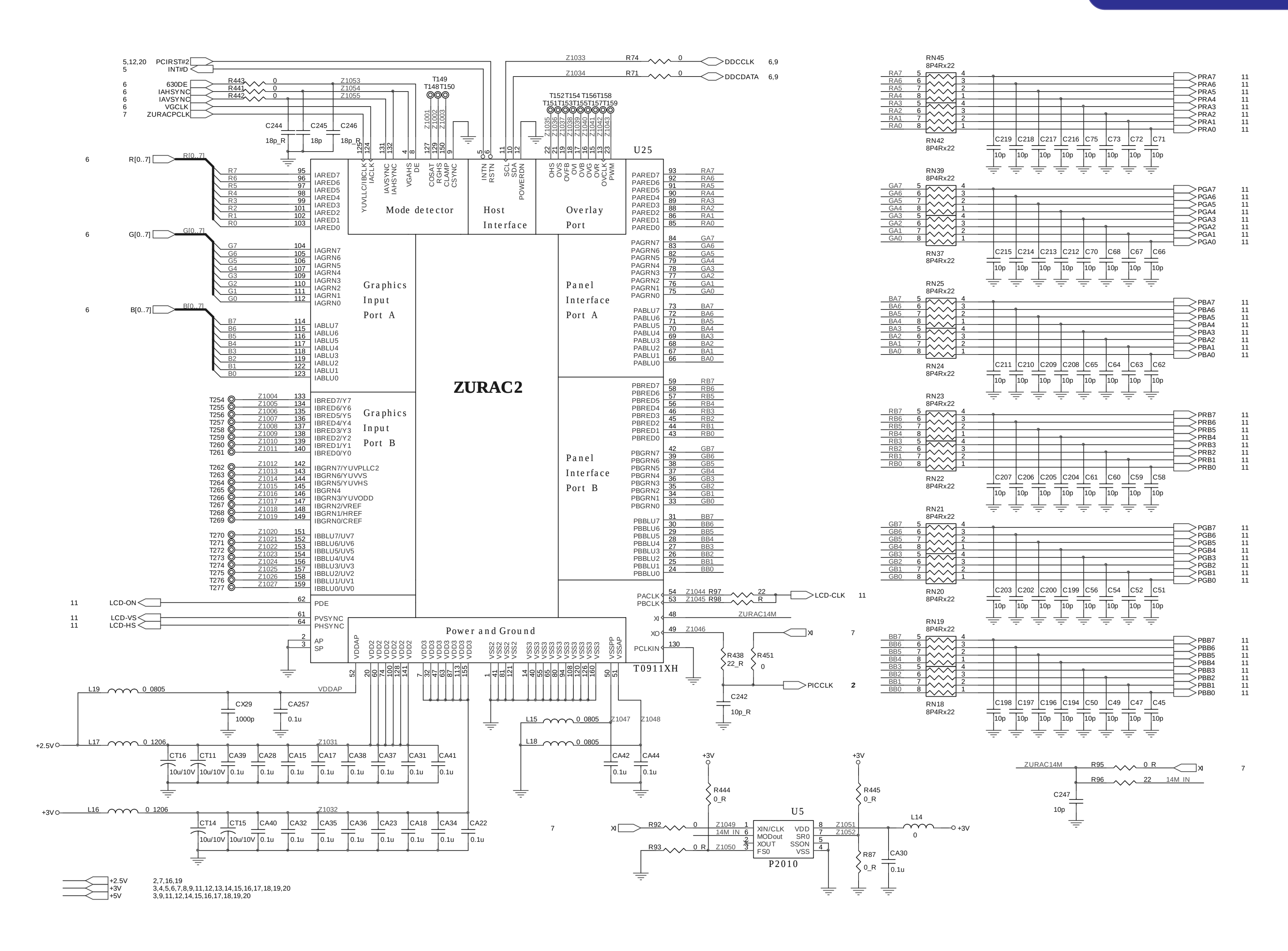
NOTE: PCICLK<37.5MHz





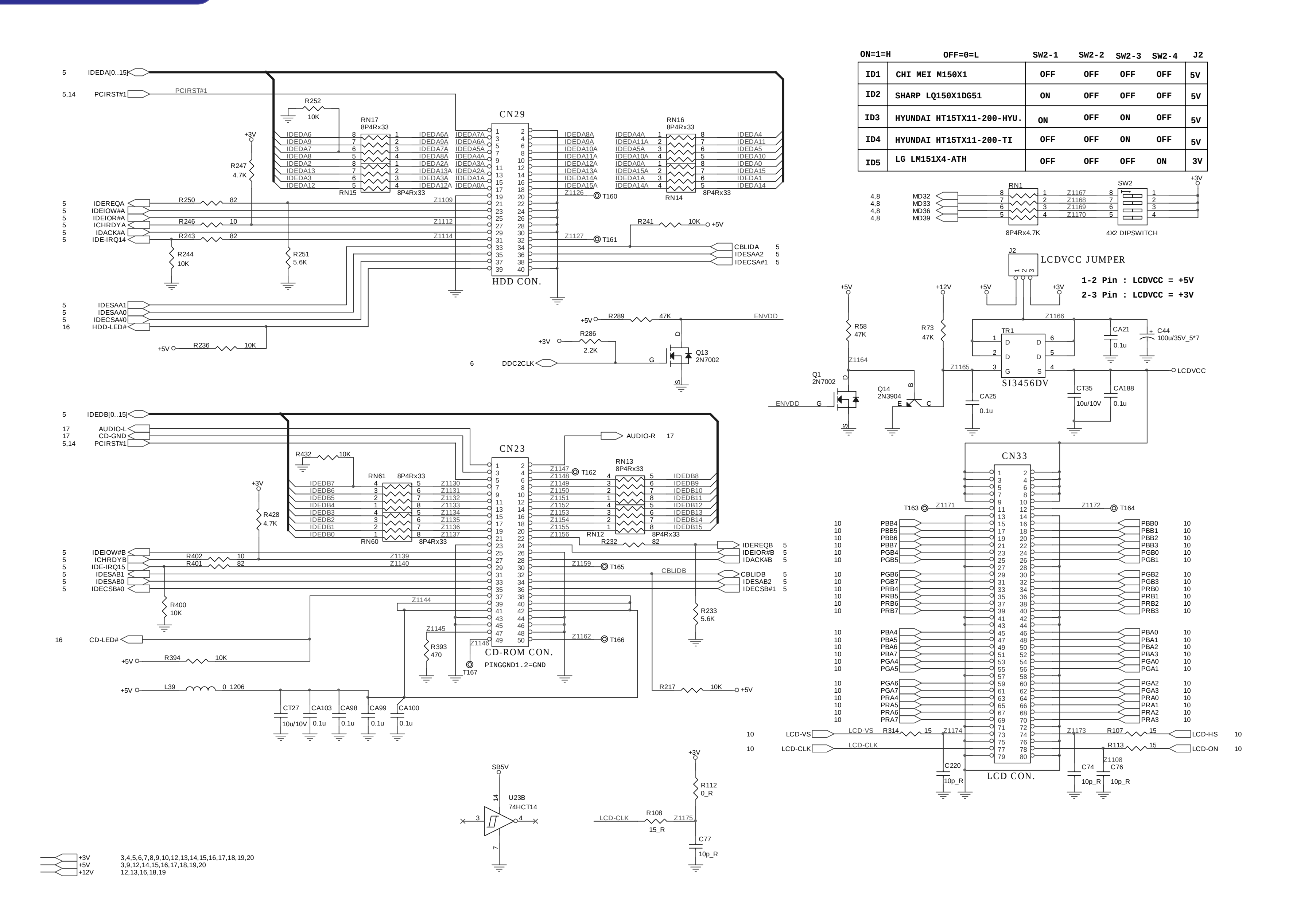



+5V 3,11,12,14,15,16,17,18,19,20
+3V 3,4,5,6,7,8,10,11,12,13,14,15,16,17,18,19,20
VSYNC
HSYNC
BOUT
GOUT
ROUT
R229 47
R228 47
Q10 2N7002
Q9 2N7002
Q8 2N7002
Q11 2N7002
L55 BEAD BK1608HS601 600ohm
L54 BEAD BK1608HS601 600ohm
L57 BEAD BK1608LL121 120ohm
L58 BEAD BK1608LL121 120ohm
L59 BEAD BK1608LL121 120ohm
L53 0
L56 0
DDCDATA 6,10
DDCCLK 6,10
CN26
CRT CON.
C146 220p_R
C145 220p_R
R230 560
R227 560
D6 DA204U
D5 DA204U
D7 DA204U
R220 75
R219 75
R218 75
C136 22p
C135 22p
C134 22p
C149 22p
C148 22p
C147 22p
T146
T147
CN21
USB-CON
VCC
1DATA-
1DATA+
GND
GND3
GND4
2DATA-
2DATA+
GND1
GND2
L34 0_0805
F4 POLY SW 1.1A
CA93 0.1u
CT26 10u/10V
L35 BEAD BK1608HM121 120ohm
L36 BEAD BK1608HM121 120ohm
C114 33p
C115 33p
PLACE THESE COMPONENT NEAR SiS630S
R27 27
R26 27
UV0- 6
UV0+ 6
R190 15K
R189 15K
C18 100p
C19 20p
L44 0_0805
F8 POLY SW 1.1A
CA104 0.1u
CT28 10u/10V
L42 BEAD BK1608HM121 120ohm
L40 BEAD BK1608HM121 120ohm
C122 33p
C121 33p
R28 27
R29 27
UV1- 6
UV1+ 6
R199 15K
R203 15K
C21 100p
C20 20p
CN12
EXT-USB
L25 0_0805
F1 POLY SW 1.1A
CA86 0.1u
CT24 10u/10V
R42 27
R41 27
UV2- 6
UV2+ 6
R178 15K
R176 15K
C32 100p
C33 20p
L29 0_0805
F3 POLY SW 1.1A
CA91 0.1u
CT25 10u/10V
R44 27
R43 27
UV3- 6
UV3+ 6
R185 15K
R183 15K
C34 100p
C35 20p

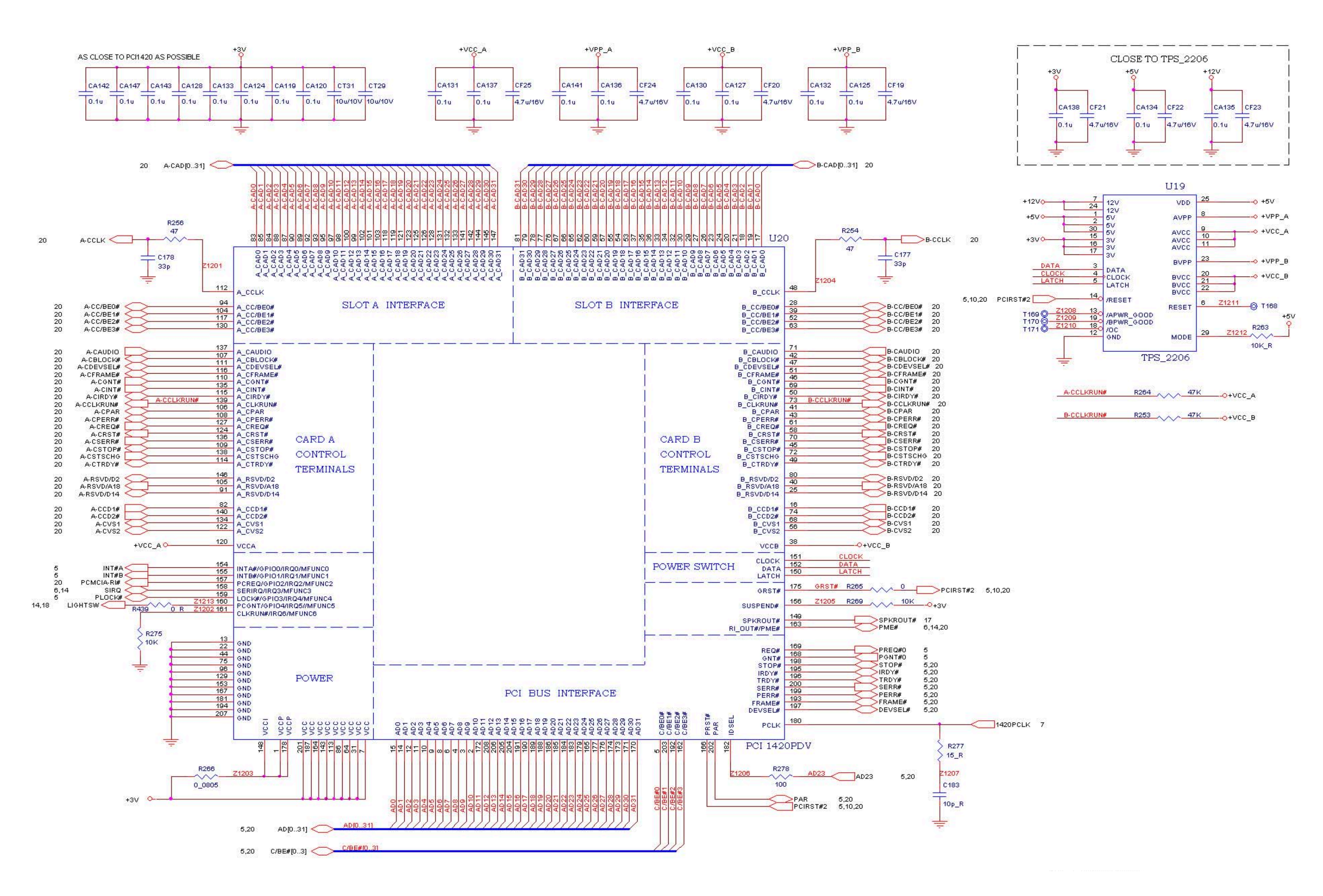

ZURAC2
U25
T0911XH
Mode detector
Host Interface
Overlay Port
Graphics Input Port A
Graphics Input Port B
Panel Interface Port A
Panel Interface Port B
Power and Ground
U5
P2010
DDCCLK
DDCDATA
LCD-CLK
PICCLK
LCD-ON
LCD-VS
LCD-HS
+2.5V
+3V
+5V

C

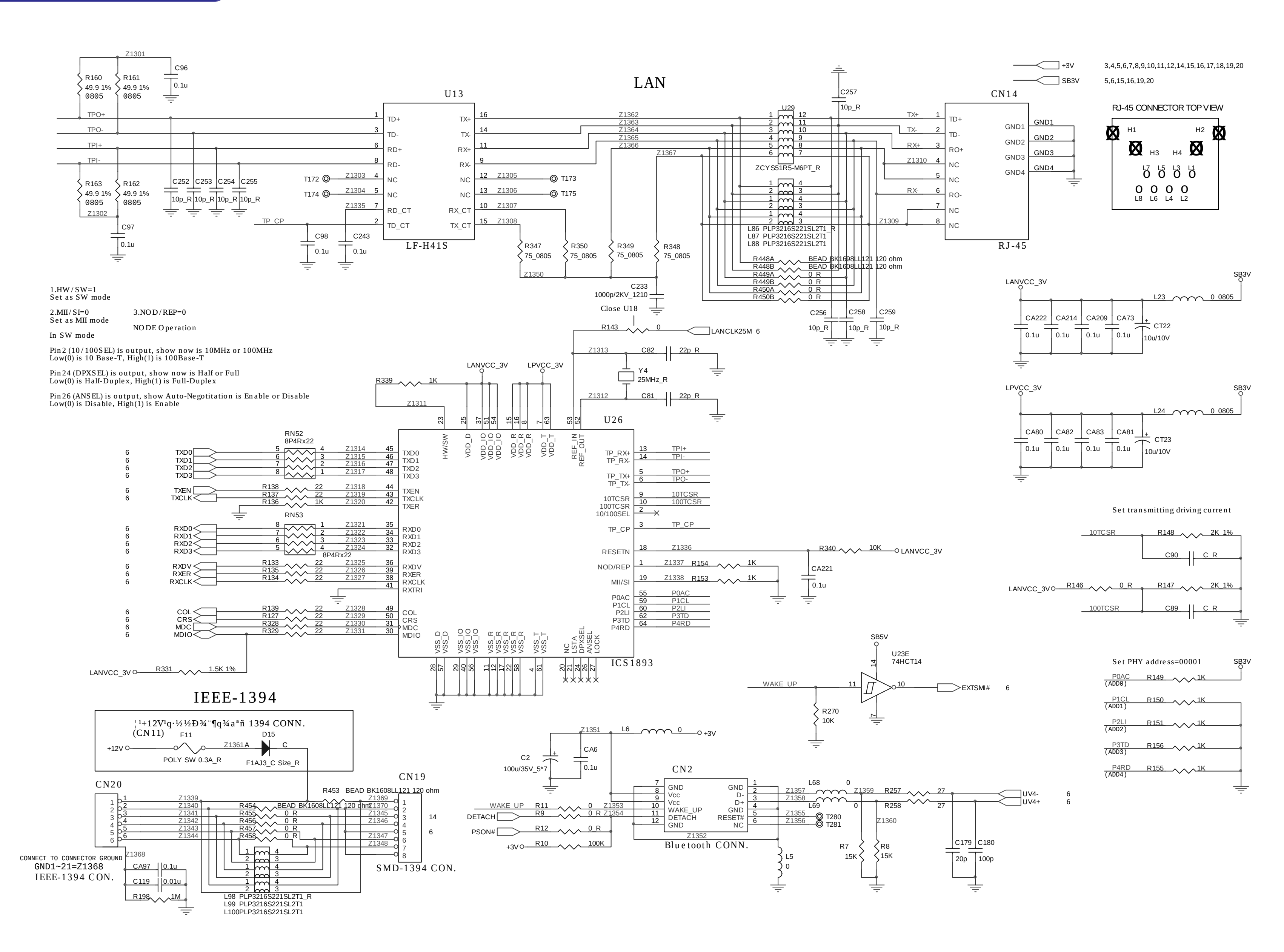
C

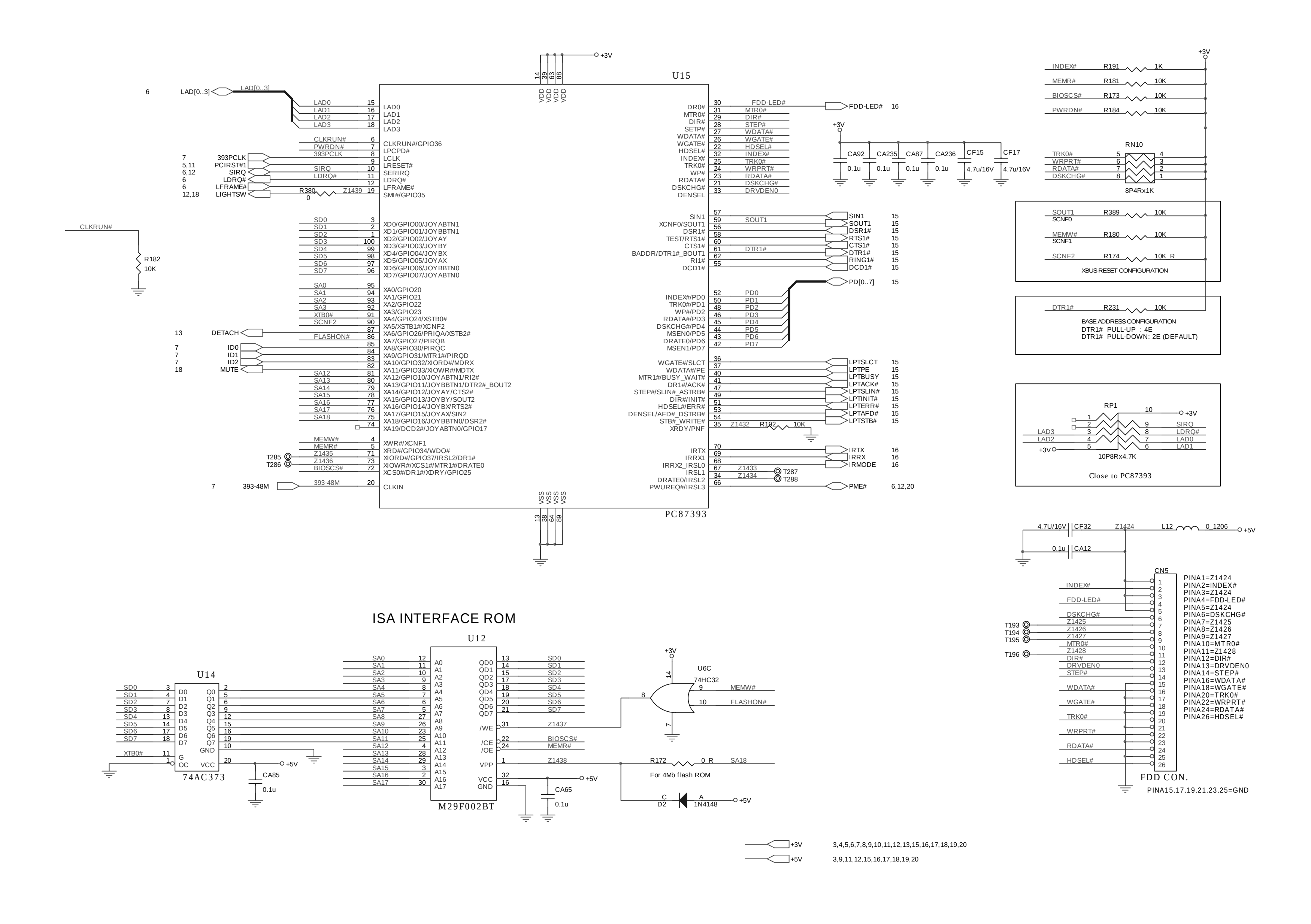


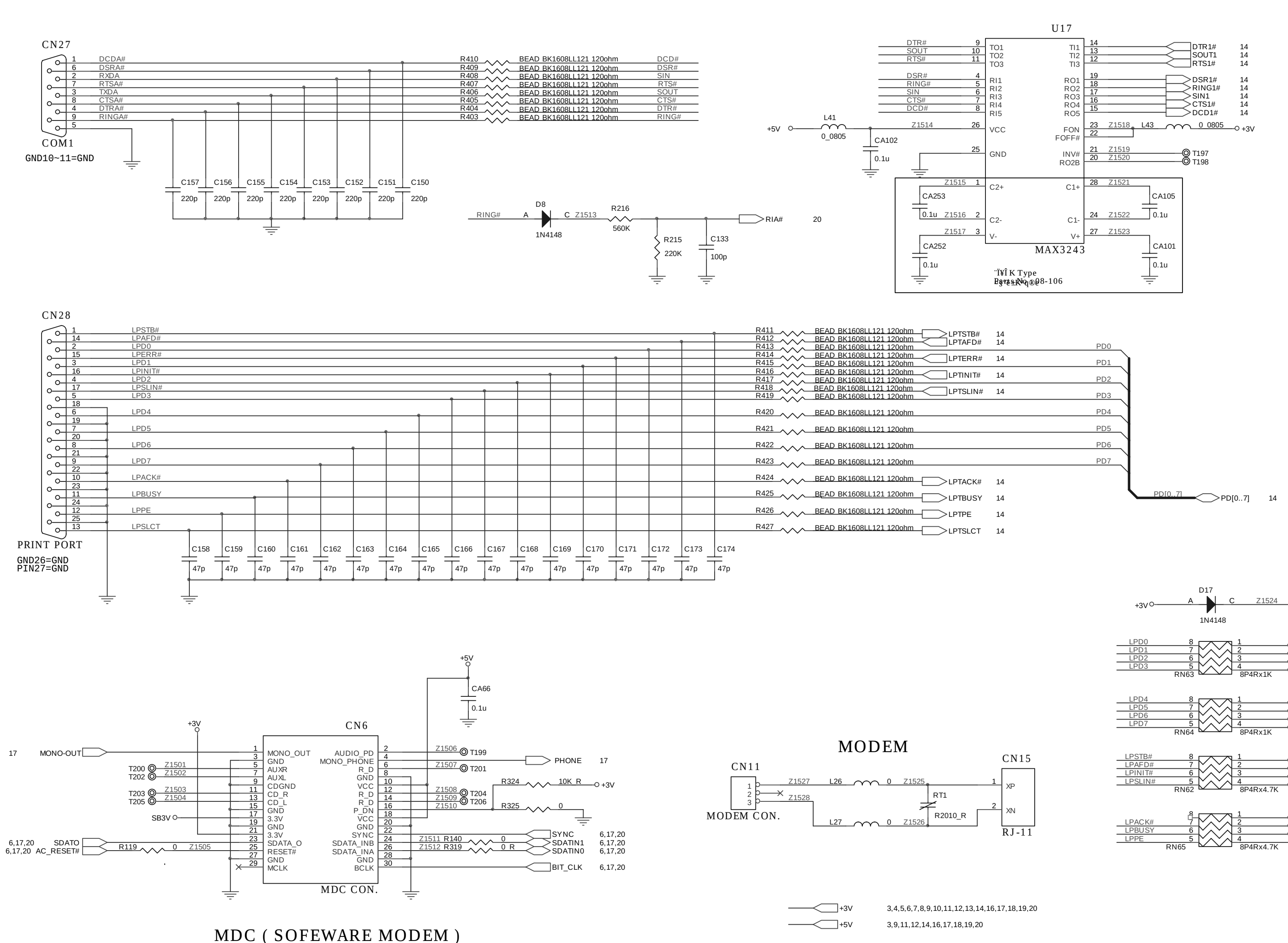
ON=1=H	OFF=0=L	SW2-1	SW2-2	SW2-3	SW2-4	J2
ID1	CHI MEI M150X1	OFF	OFF	OFF	OFF	5V
ID2	SHARP LQ150X1DG51	ON	OFF	OFF	OFF	5V
ID3	HYUNDAI HT15TX11-200-HYU.	ON	OFF	ON	OFF	5V
ID4	HYUNDAI HT15TX11-200-TI	OFF	OFF	ON	OFF	5V
ID5	LG LM151X4-ATH	OFF	OFF	OFF	ON	3V

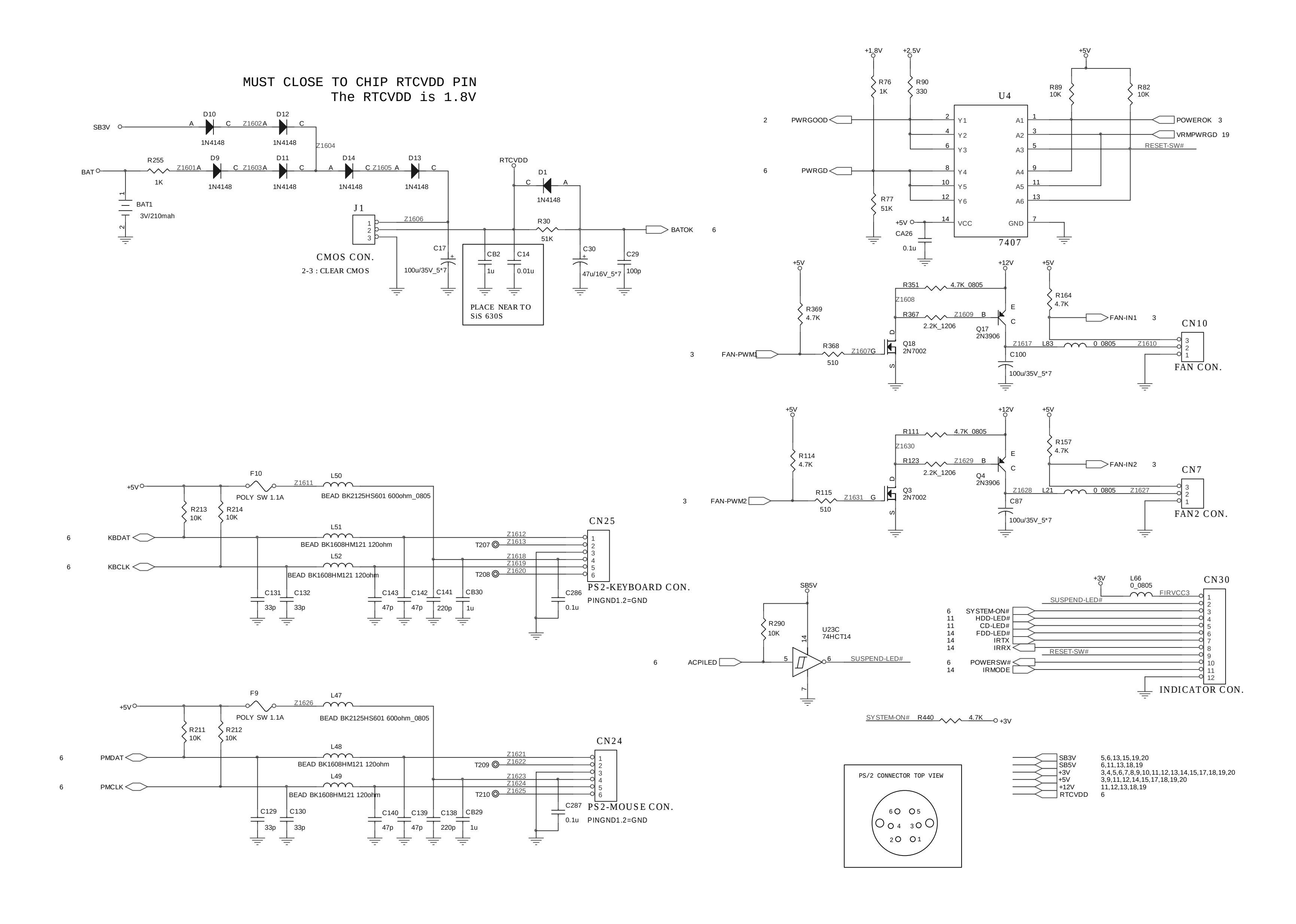

AS CLOSE TO PCI1420 AS POSSIBLE
CLOSE TO TPS_2206
U19
TPS_2206
U20
SLOT A INTERFACE
SLOT B INTERFACE
CARD A
CONTROL
TERMINALS
CARD B
CONTROL
TERMINALS
POWER SWITCH
POWER
PCI BUS INTERFACE
PCI 1420PDV

C

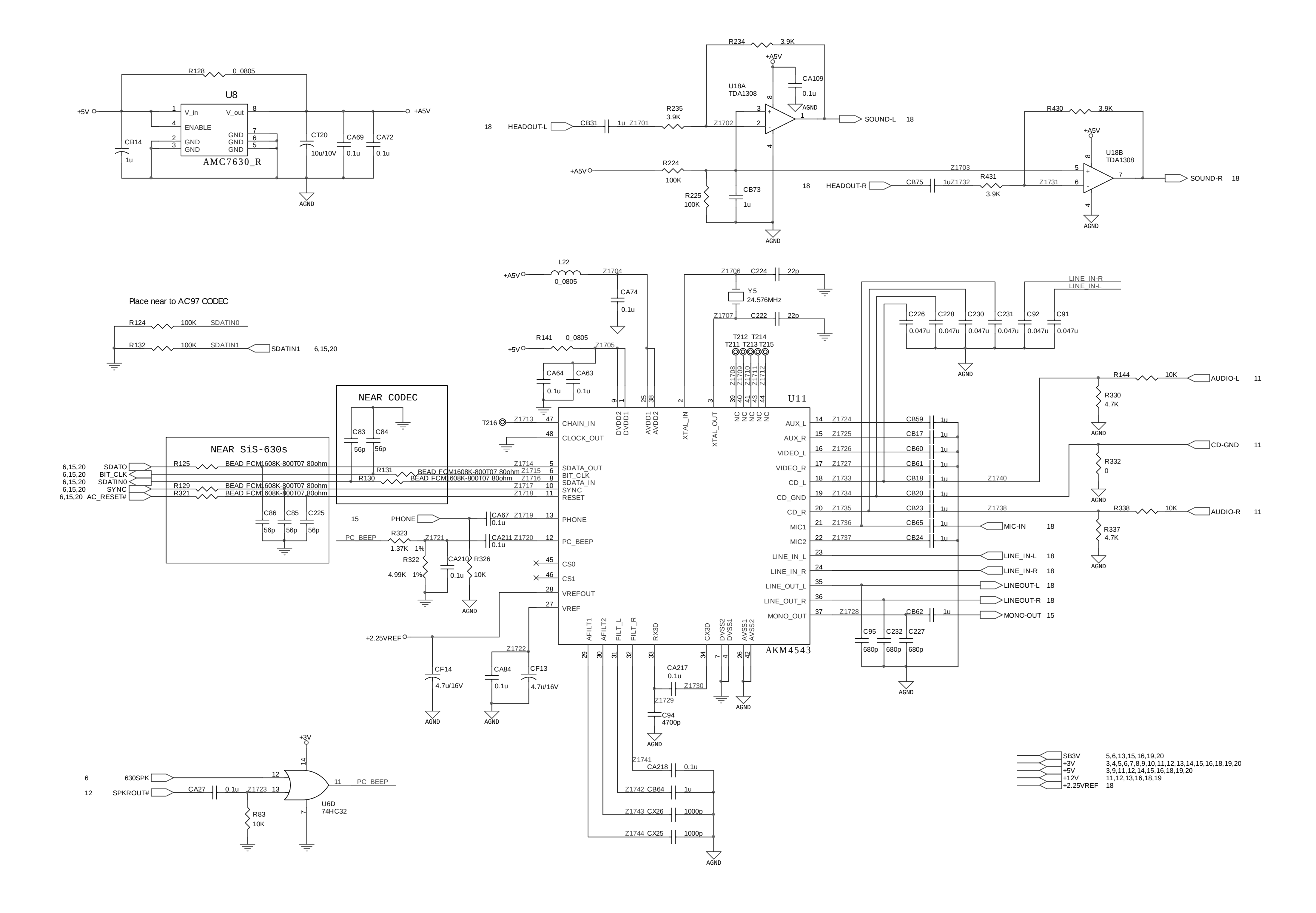

LAN
U13
LF-H41S
CN14
RJ-45
RJ-45 CONNECTOR TOP VIEW
U26
ICS1893
1.HW/SW=1
Set as SW mode
2.MII/SI=0
Set as MII mode
3.NOD/REP=0
NODE Operation
In SW mode
Pin2 (10/100SEL) is output, show now is 10MHz or 100MHz
Low(0) is 10 Base-T, High(1) is 100Base-T
Pin24 (DPXSEL) is output, show now is Half or Full
Low(0) is Half-Duplex, High(1) is Full-Duplex
Pin26 (ANSEL) is output, show Auto-Negotitation is Enable or Disable
Low(0) is Disable, High(1) is Enable
Close U18
Set transmitting driving current
Set PHY address=00001
IEEE-1394
CN20
CONNECT TO CONNECTOR GROUND
GND1~21=Z1368
IEEE-1394 CON.
CN19
SMD-1394 CON.
CN2
Bluetooth CONN.
U23E
74HCT14

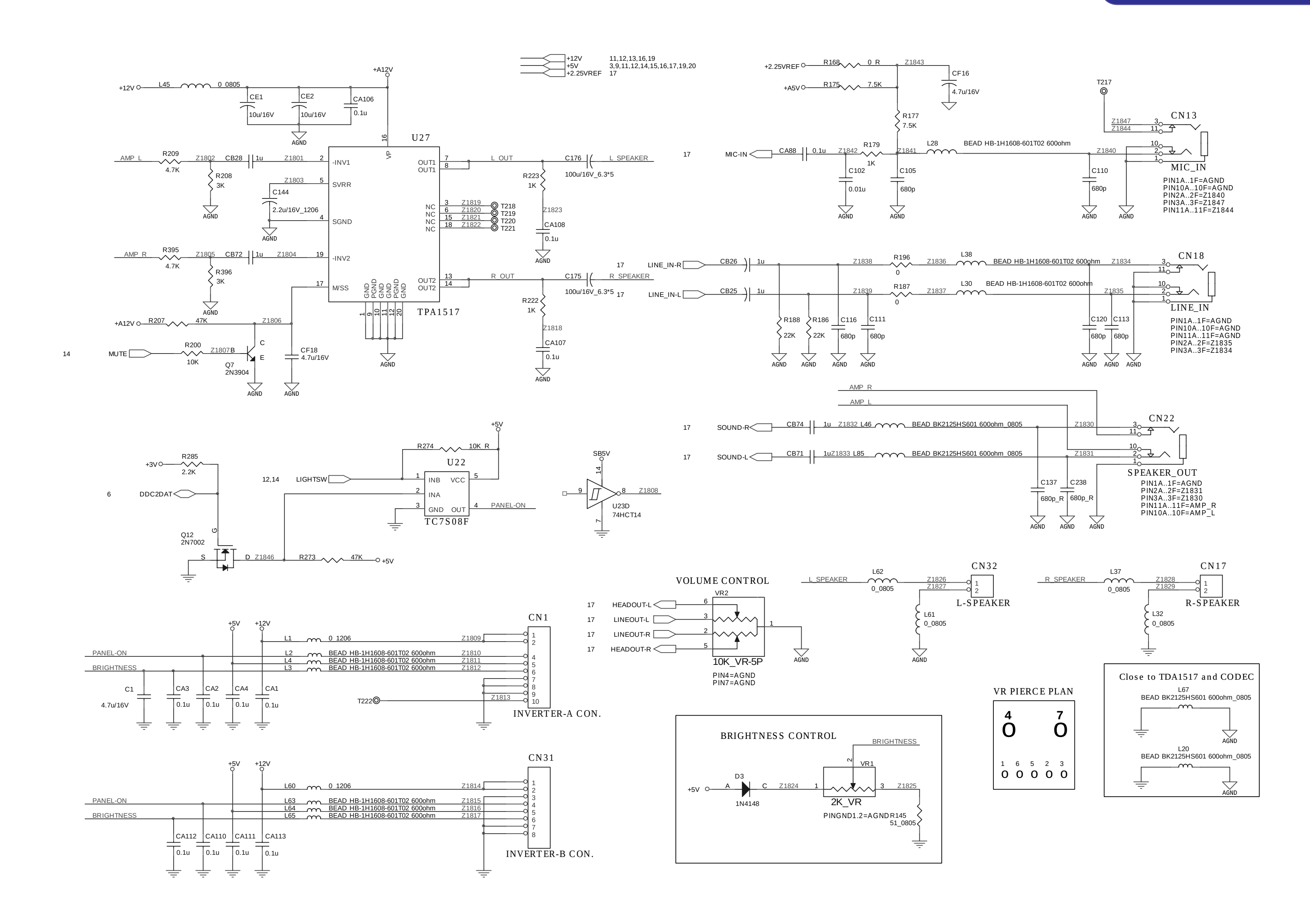

U15
PC87393
ISA INTERFACE ROM
U12
M29F002BT
U14
74AC373
U6C
74HC32
XBUS RESET CONFIGURATION
BASE ADDRESS CONFIGURATION
DTR1# PULL-UP : 4E
DTR1# PULL-DOWN: 2E (DEFAULT)
Close to PC87393
For 4Mb flash ROM
FDD CON.
PINA15.17.19.21.23.25=GND
PINA1=Z1424
PINA2=INDEX#
PINA3=Z1424
PINA4=FDD-LED#
PINA5=Z1424
PINA6=DSKCHG#
PINA7=Z1425
PINA8=Z1426
PINA9=Z1427
PINA10=MTR0#
PINA11=Z1428
PINA12=DIR#
PINA13=DRVDEN0
PINA14=STEP#
PINA16=WDATA#
PINA18=WGATE#
PINA20=TRK0#
PINA22=WRPRT#
PINA24=RDATA#
PINA26=HDSEL#
+3V 3,4,5,6,7,8,9,10,11,12,13,15,16,17,18,19,20
+5V 3,9,11,12,15,16,17,18,19,20

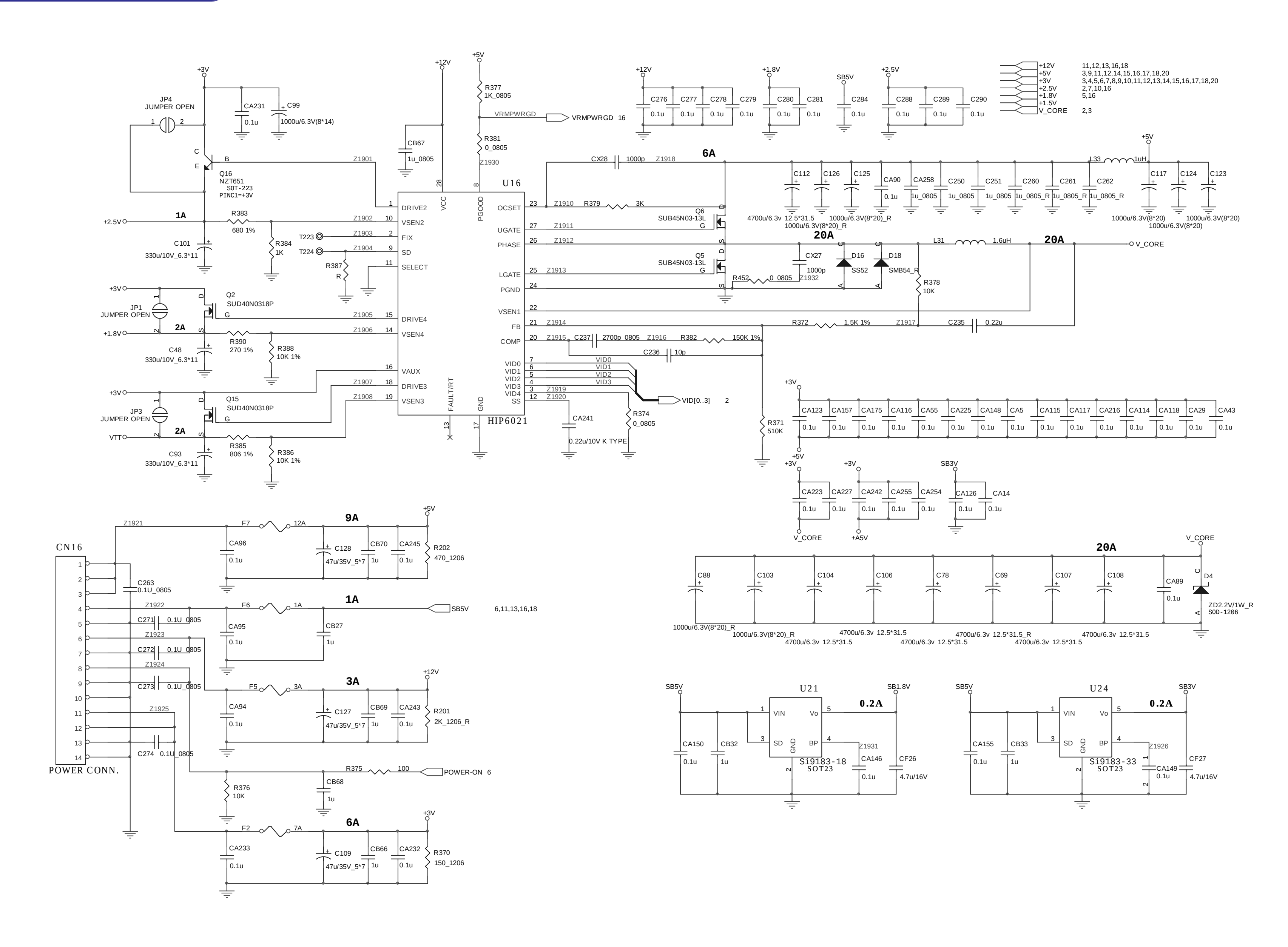

CN27
COM1
GND10~11=GND
U17
MAX3243
D8
1N4148
RIA#
CN28
PRINT PORT
GND26=GND
PIN27=GND
PD[0..7]
D17
1N4148
RN63
RN64
RN62
RN65
CN6
MDC CON.
MONO-OUT
PHONE
SYNC
SDATIN1
SDATIN0
BIT_CLK
MODEM
CN11
MODEM CON.
CN15
RJ-11
MDC (SOFEWARE MODEM)

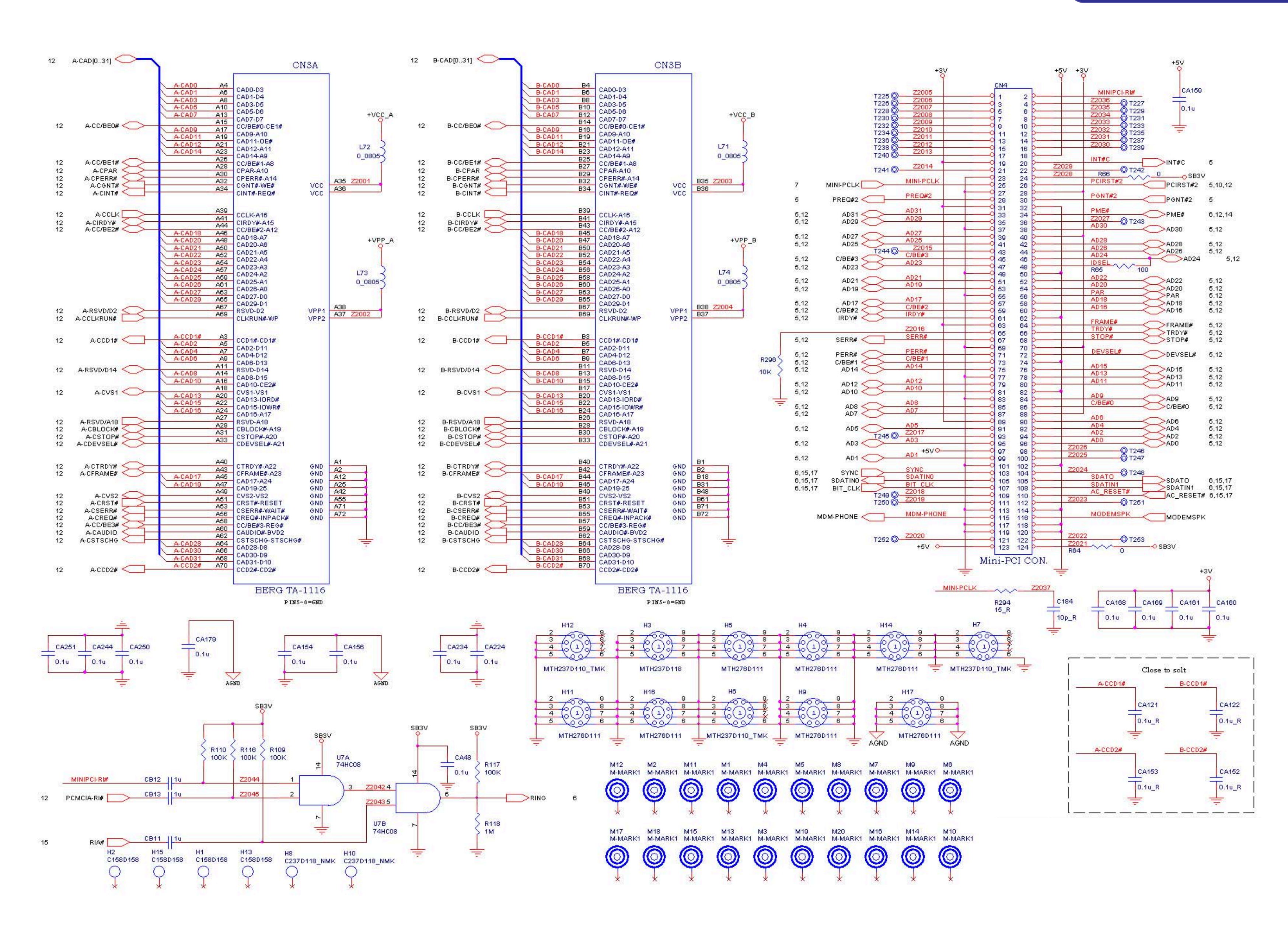

MUST CLOSE TO CHIP RTCVDD PIN
The RTCVDD is 1.8V
CMOS CON.
2-3 : CLEAR CMOS
PLACE NEAR TO SiS 630S
U4
7407
FAN CON.
FAN2 CON.
PS2-KEYBOARD CON.
PINGND1.2=GND
PS2-MOUSE CON.
PINGND1.2=GND
INDICATOR CON.
PS/2 CONNECTOR TOP VIEW

C

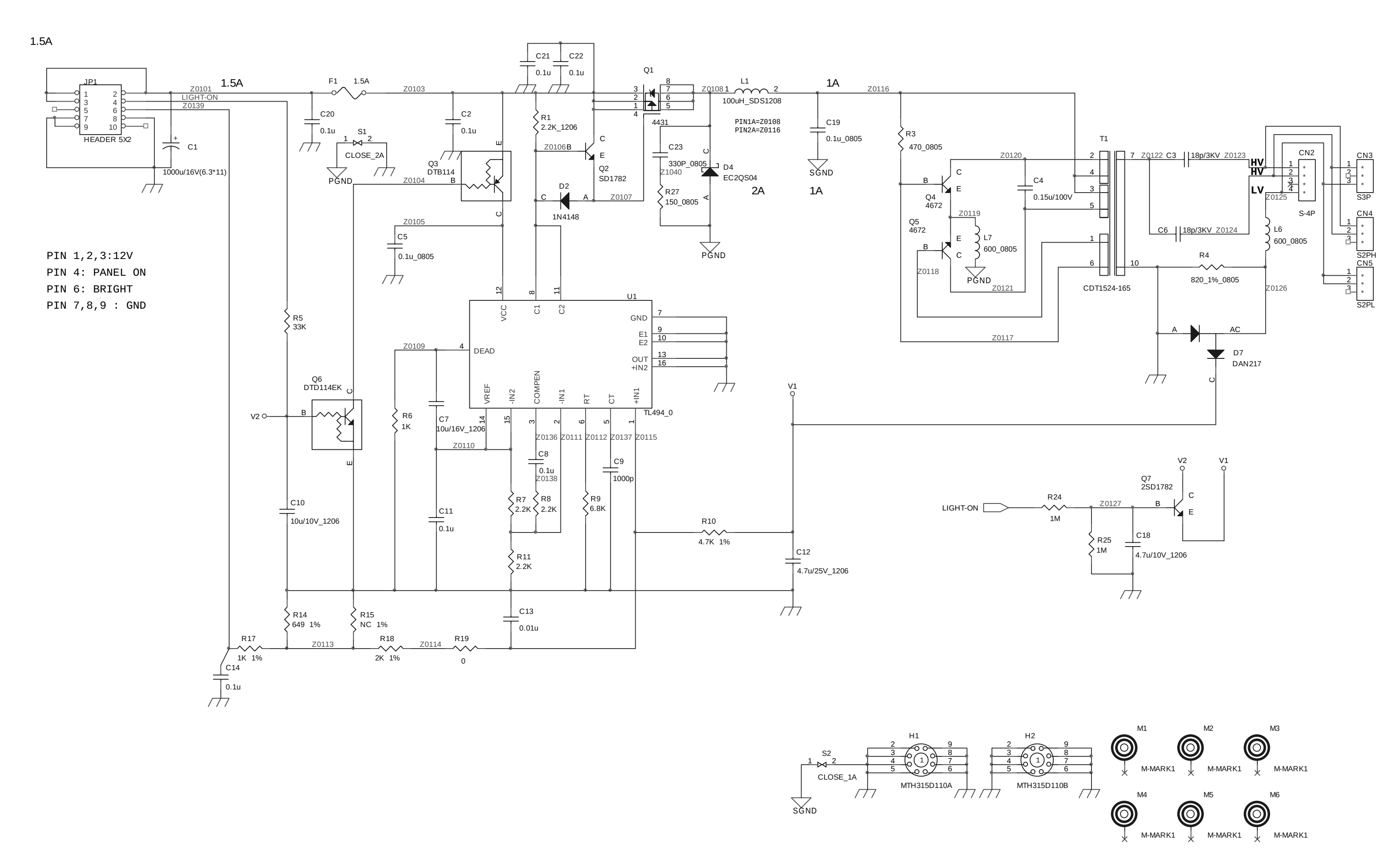




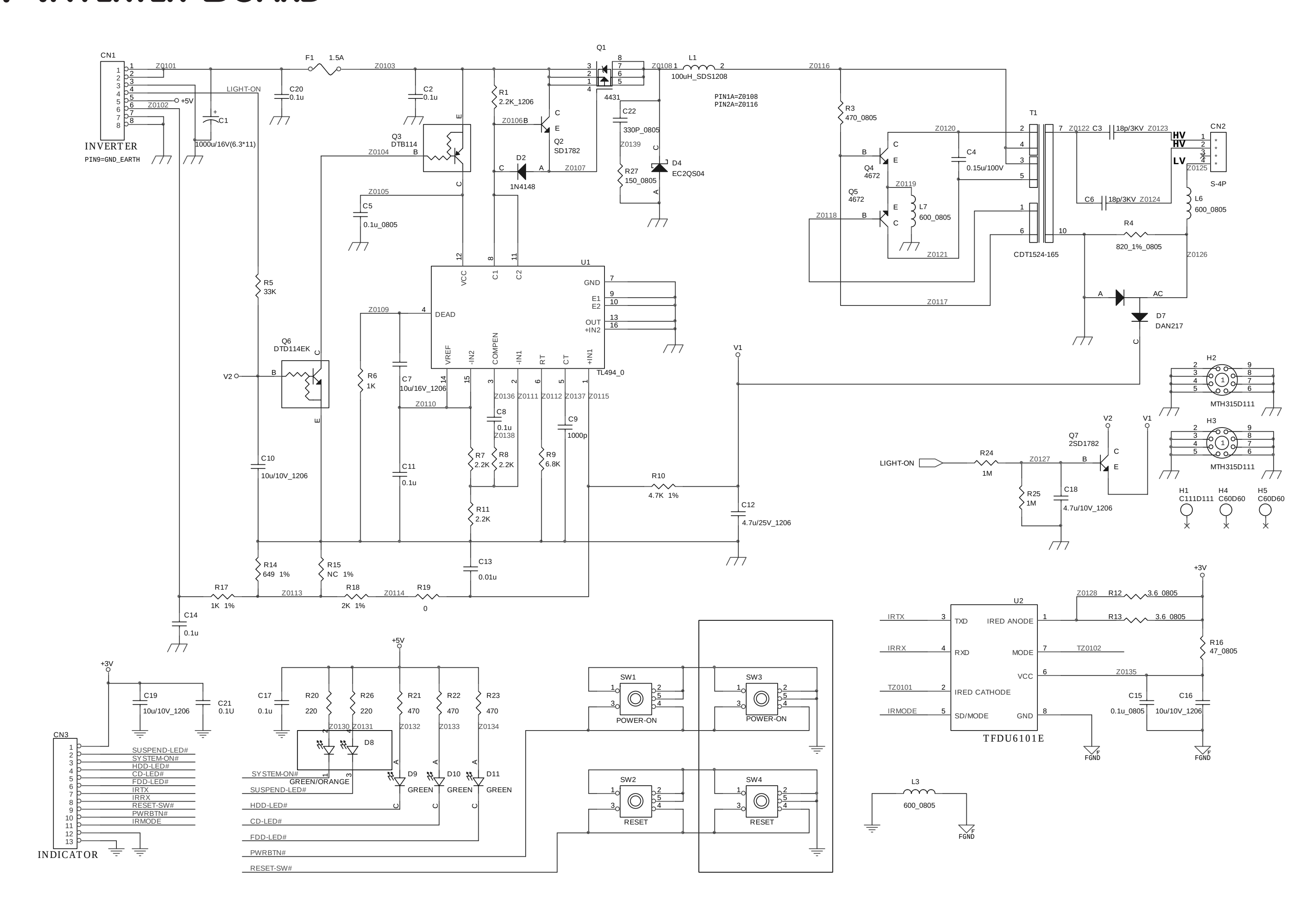



CN3A
BERG TA-1116
PINS-8=GND
CN3B
BERG TA-1116
PINS-8=GND
CN4
Mini-PCI CON.
+VCC_A
+VPP_A
+VCC_B
+VPP_B
L72 0_0805
L73 0_0805
L71 0_0805
L74 0_0805
+3V
+5V
SB3V
U7A 74HC08
U7B 74HC08
R110 100K
R116 100K
R109 100K
R117 100K
R118 1M
CA48 0.1u
MINIPCI-RI#
PCMCIA-RI#
RIA#
CB12 1u
CB13 1u
CB11 1u
RING
Close to solt
A-CCD1#
B-CCD1#
A-CCD2#
B-CCD2#
CA121 0.1u_R
CA122 0.1u_R
CA153 0.1u_R
CA152 0.1u_R
MTH237D110_TMK
MTH237D118
MTH276D111
M-MARK1
AGND
C158D158
C237D118_NMK
R294 15_R
C184 10p_R
CA168 0.1u
CA169 0.1u
CA161 0.1u
CA160 0.1u
CA159 0.1u
CA251 0.1u
CA244 0.1u
CA250 0.1u
CA179 0.1u
CA154 0.1u
CA156 0.1u
CA234 0.1u
CA224 0.1u
R296 10K
R66 0
R65 100
R64 0

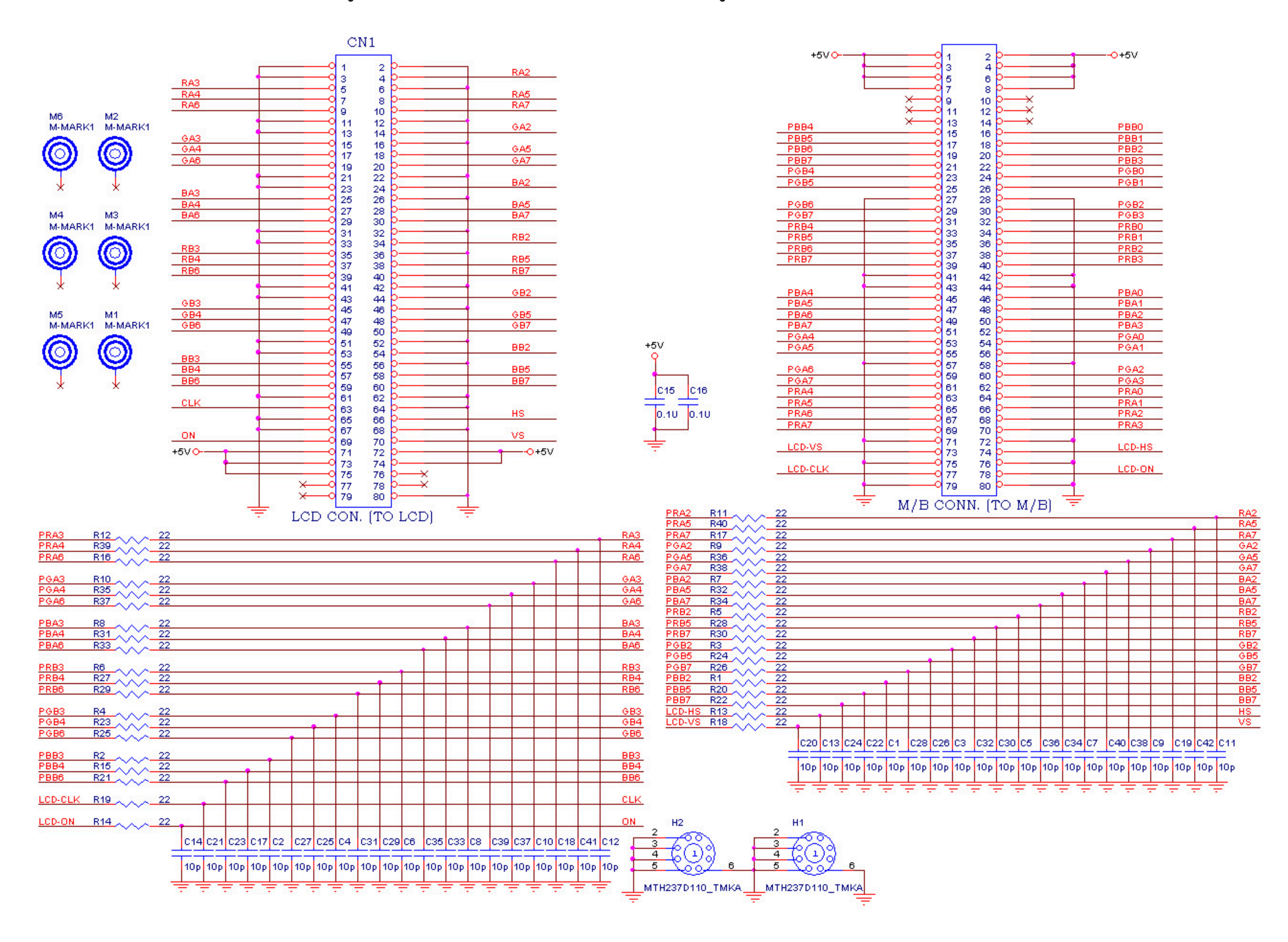
INVERTER BOARD



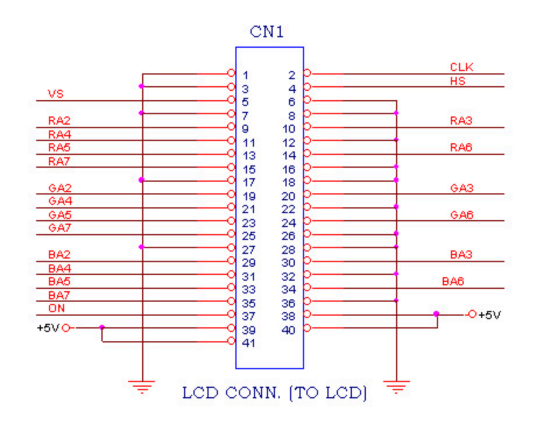
LED + Inverter Board

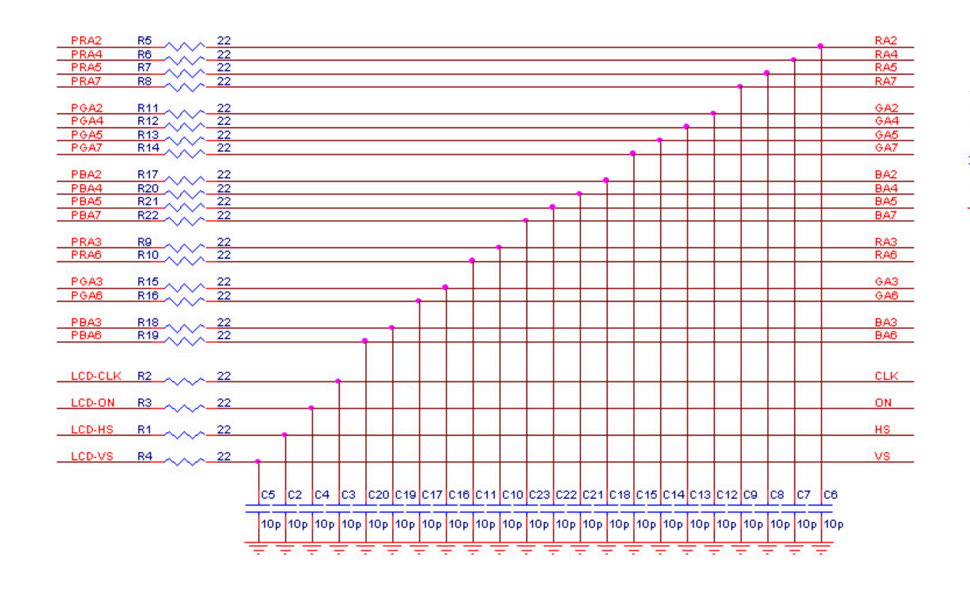


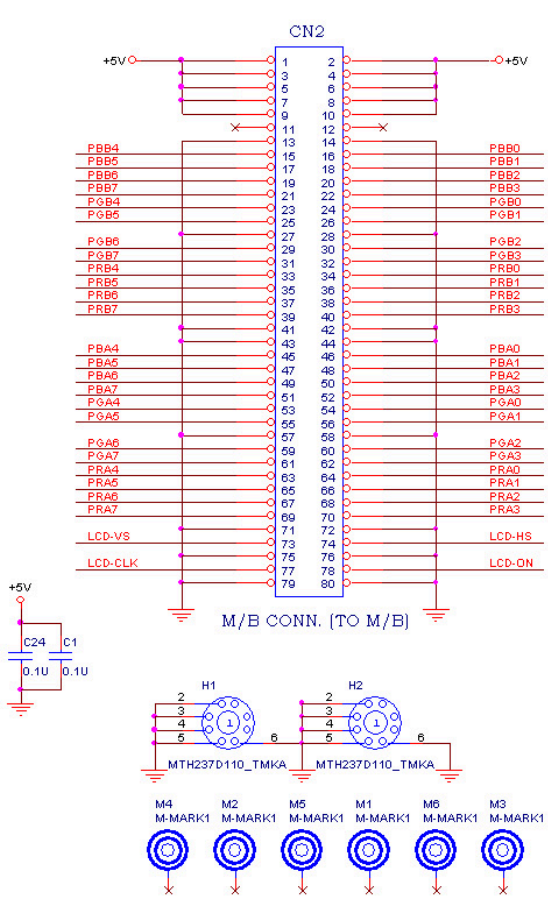
CONVERTER BOARD (FOR HYUNDAI PANELS)



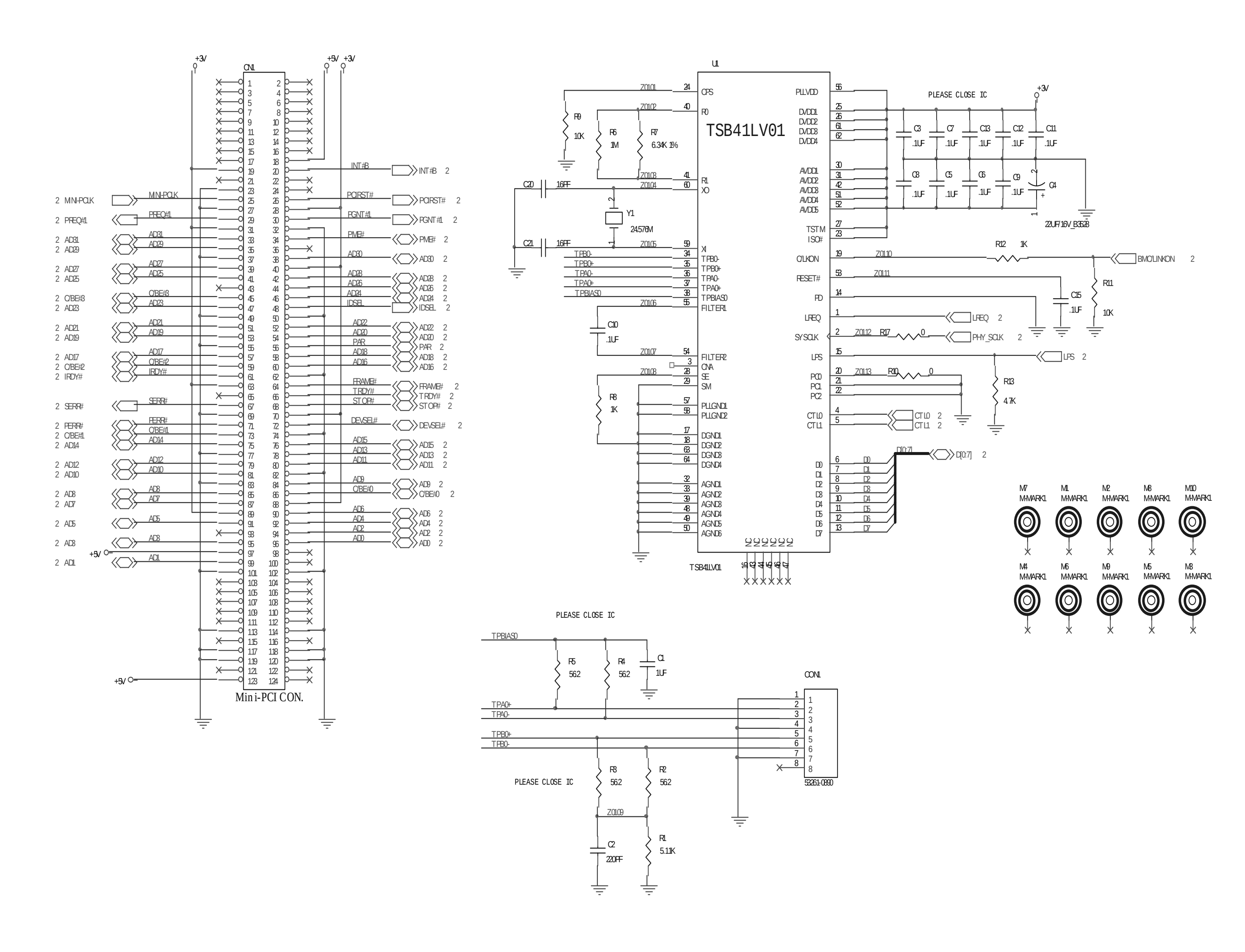
CONVERTER BOARD (FOR LG PANELS)





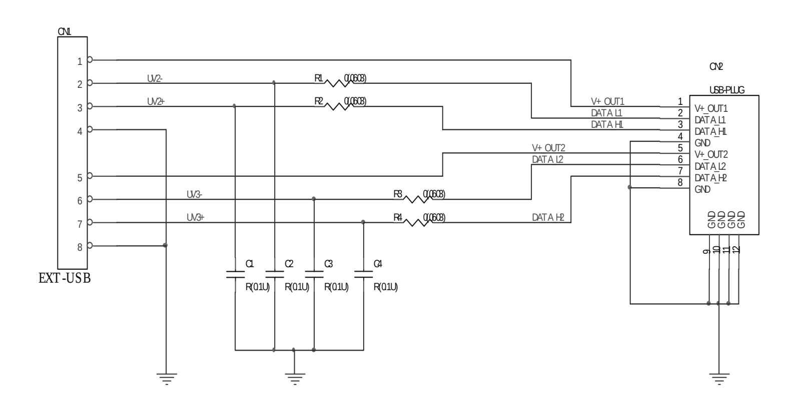


IEEE1394 EXTENSION CARD (OPTIONAL)



EXTERNAL USB BOARD

(LP200SC only)



C

NOTES:

C